

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2	("6310052").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/30 17:03
L2	4461	nitrate\$2 near4 ester\$2	US-PGPUB; USPAT; USOCR	OR	OFF	2006/04/30 17:04
L3	255	514/509.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/30 17:05
L4	52	2 and 3	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/30 17:05
L5	11668	(sedation or sedate\$2 or sedating or sedated or anxiety or anxiolyt\$ or anesthes\$ or anaesth\$ or sleep or somnol\$ or insomni\$4).clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/30 17:13
L6	17	2 and 5	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/30 17:10
L7	145900	(sedation or sedate\$2 or sedating or sedated or anxiety or anxiolyt\$ or anesthes\$ or anaesth\$ or sleep or somnol\$ or insomni\$4)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/30 17:13
L8	236	2 and 7	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/30 17:13
L9	39	8 and @PD>="20050725"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/30 17:14

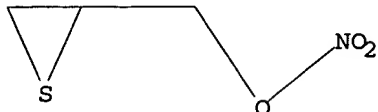
09/473,713

09/473,713

FILE CONTAINS CURRENT INFORMATION.  
LAST RELOADED: Apr 21, 2006 (20060421/UP).

=> d que stat

L7 STR



Structure attributes must be viewed using STN Express query preparation.

L9 1 SEA FILE=REGISTRY SSS FUL L7  
L10 2 SEA L9  
L11 1 DUP REM L10 (1 DUPLICATE REMOVED)

=> d his full

(FILE 'HOME' ENTERED AT 18:32:36 ON 30 APR 2006)

FILE 'REGISTRY' ENTERED AT 18:33:33 ON 30 APR 2006

L1 STRUCTURE UPLOADED  
D L1

L2 1 SEA SSS SAM L1  
D SCAN L2

L3 8 SEA SSS FUL L1  
D SCAN L3

FILE 'HCAPLUS, USPATFULL, USPAT2' ENTERED AT 18:35:37 ON 30 APR 2006

L4 18 SEA L3  
L5 12 DUP REM L4 (6 DUPLICATES REMOVED)  
L6 5 SEA L5 AND (SEDAT? OR ANXIETY OR ANXIOLYT? OR ANESTHES? OR  
ANAESTH? OR SLEEP? OR SOMNOL? OR INSOMNI?)  
D L6 ABS CBIB KWIC HITSTR 1-5

FILE 'STNGUIDE' ENTERED AT 18:37:12 ON 30 APR 2006

FILE 'REGISTRY' ENTERED AT 18:38:53 ON 30 APR 2006

L7 STRUCTURE UPLOADED  
D L7

L8 0 SEA SSS SAM L7

L9 1 SEA SSS FUL L7  
D SCAN L9

FILE 'HCAPLUS, USPATFULL, USPAT2' ENTERED AT 18:40:23 ON 30 APR 2006

L10 2 SEA L9  
L11 1 DUP REM L10 (1 DUPLICATE REMOVED)  
D L11 ABS CBIB KWIC HITSTR 1

FILE 'STNGUIDE' ENTERED AT 18:41:04 ON 30 APR 2006

FILE 'STNGUIDE' ENTERED AT 18:41:27 ON 30 APR 2006

FILE 'STNGUIDE' ENTERED AT 18:45:33 ON 30 APR 2006  
D QUE STAT

FILE HOME

FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 28 APR 2006 HIGHEST RN 882214-29-1  
DICTIONARY FILE UPDATES: 28 APR 2006 HIGHEST RN 882214-29-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

\*\*\*\*\*  
\*  
\* The CA roles and document type information have been removed from \*  
\* the IDE default display format and the ED field has been added, \*  
\* effective March 20, 2005. A new display format, IDERL, is now \*  
\* available and contains the CA role and document type information. \*  
\*  
\*\*\*\*\*

Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

FILE HCAPLUS

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FILE COVERS 1907 - 30 Apr 2006 VOL 144 ISS 19  
FILE LAST UPDATED: 28 Apr 2006 (20060428/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE USPATFULL

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 27 Apr 2006 (20060427/PD)  
FILE LAST UPDATED: 27 Apr 2006 (20060427/ED)

09/473,713

HIGHEST GRANTED PATENT NUMBER: US7036150  
HIGHEST APPLICATION PUBLICATION NUMBER: US2006090232  
CA INDEXING IS CURRENT THROUGH 27 Apr 2006 (20060427/UPCA)  
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 27 Apr 2006 (20060427/PD)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2006  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2006

FILE USPAT2

FILE COVERS 2001 TO PUBLICATION DATE: 27 Apr 2006 (20060427/PD)  
FILE LAST UPDATED: 27 Apr 2006 (20060427/ED)  
HIGHEST GRANTED PATENT NUMBER: US2006052877  
HIGHEST APPLICATION PUBLICATION NUMBER: US2006089761  
CA INDEXING IS CURRENT THROUGH 27 Apr 2006 (20060427/UPCA)  
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 27 Apr 2006 (20060427/PD)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2006  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2006

FILE STNGUIDE

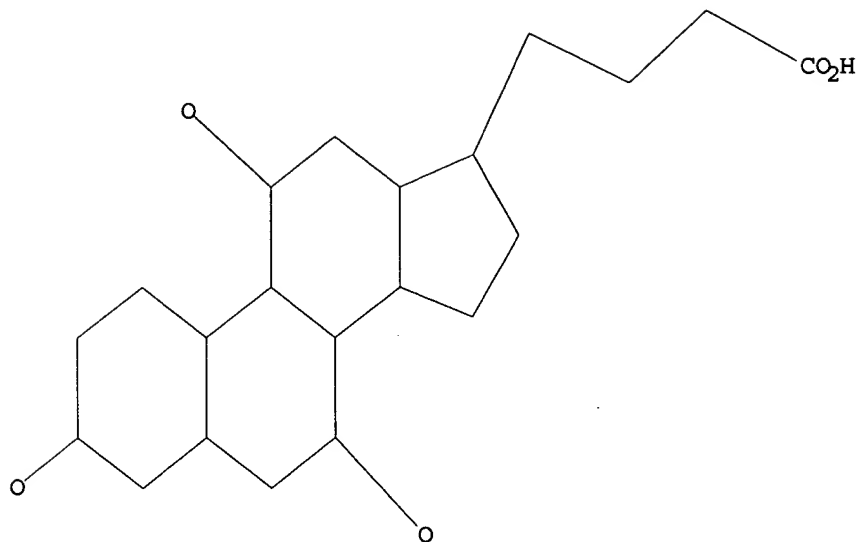
FILE CONTAINS CURRENT INFORMATION.  
LAST RELOADED: Apr 21, 2006 (20060421/UP).

=>

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=> d que stat

L8 STR



Structure attributes must be viewed using STN Express query preparation.  
L10 1 SEA FILE=REGISTRY SSS FUL L8

100.0% PROCESSED 1203 ITERATIONS  
SEARCH TIME: 00.00.01

1 ANSWERS

=> d his full

(FILE 'HOME' ENTERED AT 18:50:07 ON 30 APR 2006)

FILE 'REGISTRY' ENTERED AT 18:50:25 ON 30 APR 2006

L1 STRUCTURE UPLOADED  
D L1  
L2 0 SEA SSS SAM L1  
L3 0 SEA SSS FUL L1  
L4 STRUCTURE UPLOADED  
L5 50 SEA SSS SAM L4  
L6 STRUCTURE UPLOADED  
D L6  
L7 50 SEA SSS SAM L6  
L8 STRUCTURE UPLOADED  
D L8  
L9 0 SEA SSS SAM L8  
L10 1 SEA SSS FUL L8  
D SCAN L10  
D QUE STAT

FILE HOME

09/473,713

#### FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 28 APR 2006 HIGHEST RN 882214-29-1

DICTIONARY FILE UPDATES: 28 APR 2006 HIGHEST RN 882214-29-1

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TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

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```
*****
*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*
*****
```

Structure search iteration limits have been increased. See HELP SLIMITS for details.

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<http://www.cas.org/ONLINE/UG/regprops.html>

=>

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=> d his full

(FILE 'HOME' ENTERED AT 17:24:21 ON 30 APR 2006)

FILE 'REGISTRY' ENTERED AT 17:25:02 ON 30 APR 2006  
L1 STRUCTURE UPLOADED  
D L1  
L2 2 SEA SSS SAM L1  
L3 24 SEA SSS FUL L1

FILE 'HCAPLUS, USPATFULL, USPAT2' ENTERED AT 17:26:07 ON 30 APR 2006  
L4 3 SEA L3

FILE 'REGISTRY' ENTERED AT 17:26:16 ON 30 APR 2006  
L5 24 DUP REM L3 (0 DUPLICATES REMOVED)

FILE 'HCAPLUS, USPATFULL' ENTERED AT 17:26:39 ON 30 APR 2006  
L6 2 DUP REM L4 (1 DUPLICATE REMOVED)  
D L6 ABS CBIB HITSTR 1-2

FILE 'STNGUIDE' ENTERED AT 17:26:56 ON 30 APR 2006

FILE 'STNGUIDE' ENTERED AT 17:28:43 ON 30 APR 2006

FILE 'REGISTRY' ENTERED AT 17:30:42 ON 30 APR 2006  
L7 STRUCTURE UPLOADED  
D L7  
L8 0 SEA SSS SAM L7  
L9 19 SEA SSS FUL L7  
D SCAN L9

FILE 'HCAPLUS, USPATFULL, USPAT2' ENTERED AT 17:31:55 ON 30 APR 2006  
L10 21 SEA L9  
L11 15 DUP REM L10 (6 DUPLICATES REMOVED)  
L12 5 SEA L11 AND (SEDAT? OR ANXIETY OR ANXIOLYT? OR ANESTHES? OR  
ANAESTH? OR SLEEP? OR SOMNOL? OR INSOMNI?)  
D L12 ABS CBIB KWIC HITSTR 1-5

FILE 'STNGUIDE' ENTERED AT 17:33:32 ON 30 APR 2006

FILE 'STNGUIDE' ENTERED AT 17:34:39 ON 30 APR 2006

FILE 'STNGUIDE' ENTERED AT 17:44:00 ON 30 APR 2006

FILE 'REGISTRY' ENTERED AT 17:47:05 ON 30 APR 2006  
L13 STRUCTURE UPLOADED  
D L13  
L14 3 SEA SSS SAM L13  
D SCAN L14  
L15 76 SEA SSS FUL L13

FILE 'HCAPLUS, USPATFULL, USPAT2' ENTERED AT 17:49:06 ON 30 APR 2006  
L16 25 SEA L15  
L17 19 DUP REM L16 (6 DUPLICATES REMOVED)  
L18 5 SEA L17 AND (SEDAT? OR ANXIETY OR ANXIOLYT? OR ANESTHES? OR  
ANAESTH? OR SLEEP? OR SOMNOL? OR INSOMNI?)  
D L18 ABC CBIB KWIC HITSTR 1-5  
D L18 ABS CBIB KWIC HITSTR 1-5

Delacroix<C>

FILE 'STNGUIDE' ENTERED AT 17:51:12 ON 30 APR 2006

FILE 'STNGUIDE' ENTERED AT 17:53:28 ON 30 APR 2006

FILE HOME

FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

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DICTIONARY FILE UPDATES: 28 APR 2006 HIGHEST RN 882214-29-1

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\* The CA roles and document type information have been removed from \*  
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\* available and contains the CA role and document type information. \*  
\*  
\*\*\*\*\*

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FILE HCAPLUS

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substance identification.

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FILE COVERS 1971 TO PATENT PUBLICATION DATE: 27 Apr 2006 (20060427/PD)

FILE LAST UPDATED: 27 Apr 2006 (20060427/ED)

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HIGHEST APPLICATION PUBLICATION NUMBER: US2006090232

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REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2006

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2006

FILE USPAT2

FILE COVERS 2001 TO PUBLICATION DATE: 27 Apr 2006 (20060427/PD)

FILE LAST UPDATED: 27 Apr 2006 (20060427/ED)

HIGHEST GRANTED PATENT NUMBER: US2006052877

HIGHEST APPLICATION PUBLICATION NUMBER: US2006089761

CA INDEXING IS CURRENT THROUGH 27 Apr 2006 (20060427/UPCA)

ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 27 Apr 2006 (20060427/PD)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2006

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2006

FILE STNGUIDE

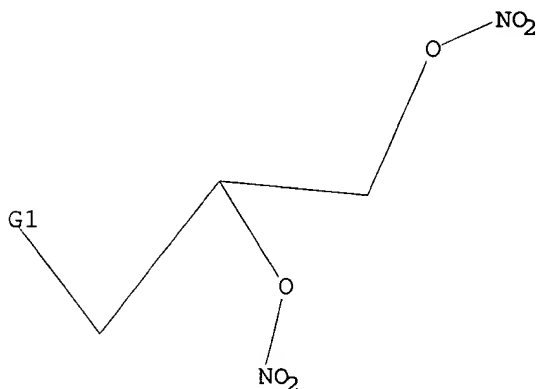
FILE CONTAINS CURRENT INFORMATION.

LAST RELOADED: Apr 21, 2006 (20060421/UP).

=> d que stat

L13

STR



G1 S,P

Structure attributes must be viewed using STN Express query preparation.

L15 76 SEA FILE=REGISTRY SSS FUL L13

L16 25 SEA L15

L17 19 DUP REM L16 (6 DUPLICATES REMOVED)

L18 5 SEA L17 AND (SEDAT? OR ANXIETY OR ANXIOLYT? OR ANESTHES? OR ANAESTH? OR SLEEP? OR SOMNOL? OR INSOMNI?)

=>

Delacroix<C>

=> d 118 abs cbib kwic hitstr 1-5

L18 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

AB YXCR3R4(CR17R18)n(CR1R2)mONO2 [m, n = 0-10; R3, R4, R17 = H, nitrate, A; R1 = H, A; A = (substituted) (unsatd.) (cyclic) alipharyl; R1R3, R4R17 = alipharyl linkage; R2, R18 = H, A, XY; X = F, Cl, Br, Cl, NO2, CH2, CF2, O, NH, NMe, cyano, NHOH, N3, S, SCN, SO, SO2, etc.; Y = null, F, Cl, Br, Cl, Me, CF2H, CF3, OH, NH2, S, SCN, SH, etc.; with provisos], were prepared Thus, [O2NOCH2CH(ONO2)CH2S]2 (prepared via the corresponding Bunte salt) at 200 µmol/kg s.c. gave virtually complete protection against 6-OHDA killing of dopaminergic neurons in rats.

2005:547257 Document Number 143:77866 Preparation of nitrate esters having a β- or γ-sufur atom for protection of cells/tissues from oxidative damage.. Thatcher, Gregory R. j.; Bennett, Brian M.; Reynolds, James N.; Boegman, Roland J.; Jhamandas, Khem (USA). U.S. Pat. Appl. Publ. US 2005137191 A1 20050623, 83 pp., Cont.-in-part of U.S. Ser. Number 147,808. (English). CODEN: USXXCO. APPLICATION: US 2004-943264 20040917. PRIORITY: US 1996-658145 19960604; US 1997-867856 19970603; US 1999-267379 19990315; US 1999-473713 19991229; US 2002-2002/147808 20020520.

IT Aging, animal  
Alcoholism  
Alzheimer's disease  
Anaphylaxis  
Aneurysm  
**Anxiety**  
Asthma  
Cachexia  
Cataract  
Cirrhosis  
Cystic fibrosis  
Dermatitis  
Diabetes mellitus  
Drug dependence  
Eczema  
Encephalomyelitis  
Epilepsy  
Eye, disease  
Glaucoma (disease)  
Hematopoietic neoplasm  
Hepatitis  
Hypoglycemia  
Hypoxia  
Ischemia  
Lupus erythematosus  
Meningitis  
Multiple sclerosis  
Mycosis  
Obesity  
Parkinson's disease  
Psoriasis  
Rheumatoid arthritis  
Schizophrenia  
Shock (circulatory collapse)  
Ulcer  
Urticaria

(treatment of damage; preparation of nitrate esters having a β- or γ-sufur atom for protection of cells/tissues from oxidative

damage)  
IT 349472-60-2P 349472-61-3P 349472-62-4P  
349472-64-6P 349472-65-7P 349472-66-8P  
349472-67-9P 349472-72-6P 349481-56-7P  
349481-57-8P 349481-58-9P 349481-60-3P  
349481-63-6P 349481-65-8P 349481-66-9P 349481-70-5P  
349482-21-9P 349487-17-8P 349487-23-6P 349487-26-9P  
349487-28-1P 349487-29-2P 349487-32-7P 349487-34-9P  
854925-36-3P 854925-37-4P 854925-38-5P  
854925-39-6P 854925-40-9P 854925-41-0P 854925-42-1P  
854925-43-2P 854925-44-3P 854925-45-4P 854925-46-5P  
854925-47-6P 854925-48-7P 854925-49-8P  
854925-50-1P 854925-51-2P 854925-52-3P  
854925-53-4P 854925-54-5P 854925-55-6P  
854925-56-7P 854925-57-8P 854925-58-9P  
854925-59-0P 854925-60-3P 854925-61-4P 854925-62-5P 854925-63-6P  
854925-64-7P 854925-65-8P 854925-66-9P 854925-67-0P 854925-68-1P  
854925-69-2P 854925-70-5P 854925-71-6P 854925-72-7P  
854925-73-8P 854925-74-9P 854925-75-0P  
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854925-79-4P 854925-80-7P 854925-81-8P  
854925-82-9P 854925-83-0P 854925-84-1P 854925-85-2P  
854925-86-3P 854925-87-4P 854925-88-5P 854925-89-6P 854925-90-9P  
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854926-21-9P 854926-22-0P 854926-23-1P 854926-24-2P 854926-25-3P  
854926-26-4P 854926-27-5P 854926-28-6P 854926-29-7P 854926-30-0P  
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854926-46-8P 854926-47-9P 854926-48-0P 854926-49-1P 854926-50-4P  
854926-58-2P 854926-59-3P 854926-60-6P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU  
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES  
(Uses)

(claimed compound; preparation of nitrate esters having a  $\beta$ - or  
 $\gamma$ -sulfur atom for protection of cells/tissues from oxidative  
damage)

IT 17115-36-5P 33997-03-4P 98019-81-9P 130210-16-1P 220046-01-5P  
220046-02-6P 252568-49-3P 294190-99-1P 294191-00-7P 294191-07-4P  
294191-08-5P 294191-11-0P 294191-12-1P 349472-79-3P  
349481-52-3P 349481-53-4P 349481-54-5P  
349481-55-6P 349481-59-0P 349481-61-4P  
349481-64-7P 349482-22-0P 349487-37-2P  
349487-38-3P 854926-56-0P 854926-57-1P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU  
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES  
(Uses)

(preparation of nitrate esters having a  $\beta$ - or  $\gamma$ -sulfur atom for  
protection of cells/tissues from oxidative damage)

IT 65051-92-5 179677-60-2 179677-62-4 179677-63-5 200418-99-1  
200419-00-7 200419-01-8 294191-01-8 294191-03-0  
294191-05-2 294191-06-3 294191-09-6  
294191-10-9 349481-68-1 854926-51-5 854926-52-6  
854926-53-7 854926-54-8 854926-55-9

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(preparation of nitrate esters having a  $\beta$ - or  $\gamma$ -sulfur atom for protection of cells/tissues from oxidative damage)

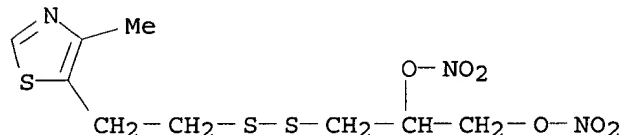
IT 349472-60-2P 349472-62-4P 349472-64-6P  
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349481-60-3P 349481-65-8P 349481-70-5P  
349487-17-8P 349487-32-7P 349487-34-9P  
854925-36-3P 854925-37-4P 854925-38-5P  
854925-39-6P 854925-40-9P 854925-47-6P  
854925-48-7P 854925-49-8P 854925-50-1P  
854925-51-2P 854925-52-3P 854925-53-4P  
854925-54-5P 854925-55-6P 854925-56-7P  
854925-57-8P 854925-58-9P 854925-73-8P  
854925-74-9P 854925-75-0P 854925-76-1P  
854925-77-2P 854925-78-3P 854925-79-4P  
854925-80-7P 854925-81-8P 854925-82-9P  
854926-58-2P 854926-59-3P 854926-60-6P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(claimed compound; preparation of nitrate esters having a  $\beta$ - or  $\gamma$ -sulfur atom for protection of cells/tissues from oxidative damage)

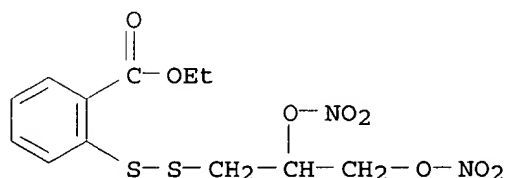
RN 349472-60-2 HCAPLUS

CN 1,2-Propanediol, 3-[[2-(4-methyl-5-thiazolyl)ethyl]dithio]-, dinitrate (ester) (9CI) (CA INDEX NAME)



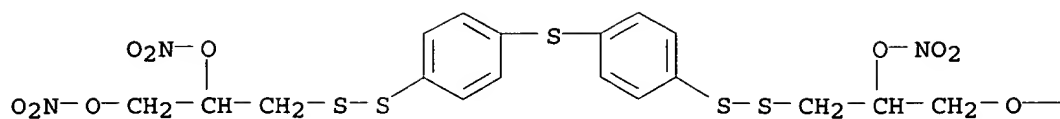
RN 349472-62-4 HCAPLUS

CN Benzoic acid, 2-[[2,3-bis(nitrooxy)propyl]dithio]-, ethyl ester (9CI) (CA INDEX NAME)



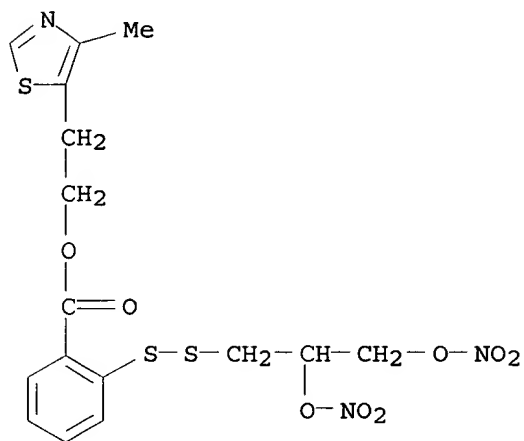
RN 349472-64-6 HCAPLUS

CN 1,2-Propanediol, 3,3'-[thiobis(4,1-phenylenedithio)]bis-, tetranitrate (9CI) (CA INDEX NAME)

— NO<sub>2</sub>

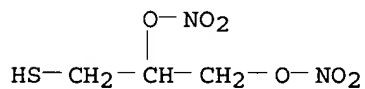
RN 349472-65-7 HCAPLUS

CN Benzoic acid, 2-[[2,3-bis(nitrooxy)propyl]dithio]-, 2-(4-methyl-5-thiazolyl)ethyl ester (9CI) (CA INDEX NAME)



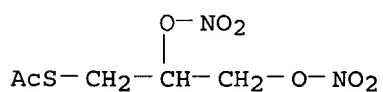
RN 349472-66-8 HCAPLUS

CN 1,2-Propanediol, 3-mercapto-, 1,3-dinitrate (9CI) (CA INDEX NAME)



RN 349472-67-9 HCAPLUS

CN Ethanethioic acid, S-[2,3-bis(nitrooxy)propyl] ester (9CI) (CA INDEX NAME)

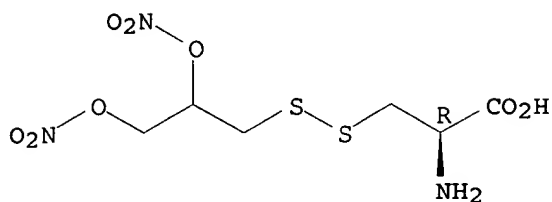


09/473,713

RN 349481-56-7 HCAPLUS

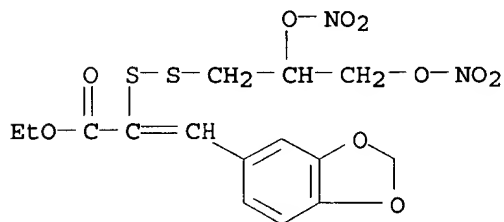
CN L-Alanine, 3-[[2,3-bis(nitrooxy)propyl]dithio]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



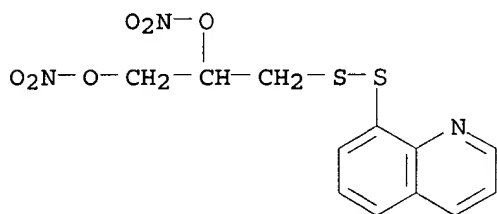
RN 349481-57-8 HCAPLUS

CN 2-Propenoic acid, 3-(1,3-benzodioxol-5-yl)-2-[[2,3-bis(nitrooxy)propyl]dithio]-, ethyl ester (9CI) (CA INDEX NAME)



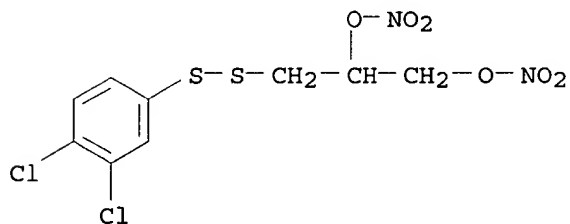
RN 349481-58-9 HCAPLUS

CN 1,2-Propanediol, 3-(8-quinolinyldithio)-, dinitrate (ester) (9CI) (CA INDEX NAME)



RN 349481-60-3 HCAPLUS

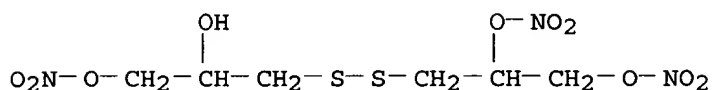
CN 1,2-Propanediol, 3-[(3,4-dichlorophenyl)dithio]-, dinitrate (9CI) (CA INDEX NAME)



09/473,713

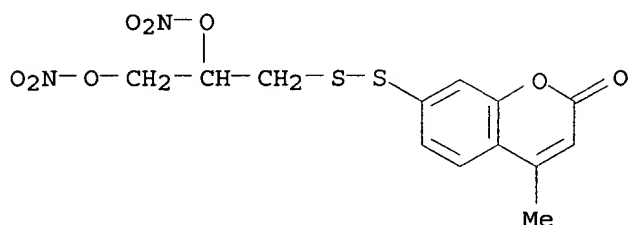
RN 349481-65-8 HCAPLUS

CN 1,2-Propanediol, 3-[[2,3-bis(nitrooxy)propyl]dithio]-, 1-nitrate (9CI)  
(CA INDEX NAME)



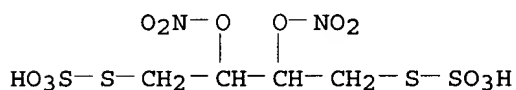
RN 349481-70-5 HCAPLUS

CN 2H-1-Benzopyran-2-one, 7-[[2,3-bis(nitrooxy)propyl]dithio]-4-methyl- (9CI)  
(CA INDEX NAME)



RN 349487-17-8 HCAPLUS

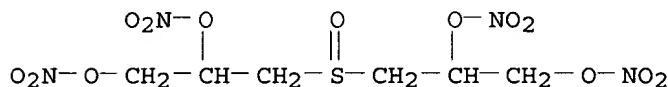
CN Thiosulfuric acid (H<sub>2</sub>S<sub>2</sub>O<sub>3</sub>), S,S'-[2,3-bis(nitrooxy)-1,4-butanediyl] ester, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

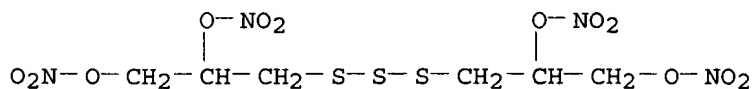
RN 349487-32-7 HCAPLUS

CN 1,2-Propanediol, 3,3'-sulfinylbis-, tetranitrate (9CI) (CA INDEX NAME)



RN 349487-34-9 HCAPLUS

CN 1,2-Propanediol, 3,3'-trithiobis-, tetranitrate (9CI) (CA INDEX NAME)



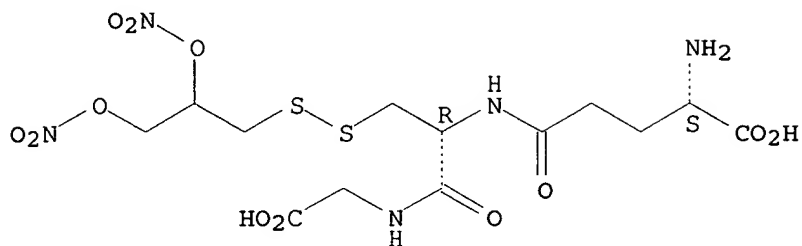
RN 854925-36-3 HCAPLUS

CN Glycine, L-γ-glutamyl-3-[[2,3-bis(nitrooxy)propyl]dithio]-L-alanyl-

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(9CI) (CA INDEX NAME)

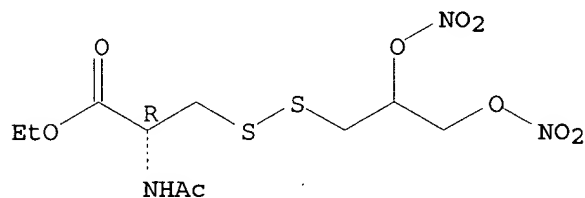
Absolute stereochemistry.



RN 854925-37-4 HCAPLUS

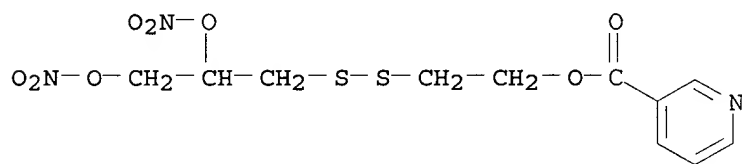
CN L-Alanine, N-acetyl-3-[[2,3-bis(nitrooxy)propyl]dithio]-, ethyl ester  
(9CI) (CA INDEX NAME)

Absolute stereochemistry.



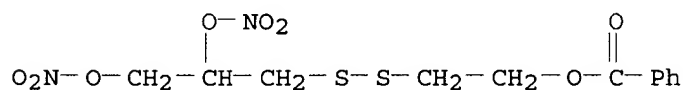
RN 854925-38-5 HCAPLUS

CN 3-Pyridinecarboxylic acid, 2-[[2,3-bis(nitrooxy)propyl]dithio]ethyl ester  
(9CI) (CA INDEX NAME)



RN 854925-39-6 HCAPLUS

CN 1,2-Propanediol, 3-[[2-(benzoyloxy)ethyl]dithio]-, dinitrate (9CI) (CA INDEX NAME)

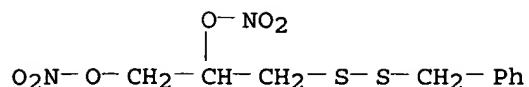


RN 854925-40-9 HCAPLUS

CN 1,2-Propanediol, 3-[(phenylmethyl)dithio]-, dinitrate (9CI) (CA INDEX NAME)

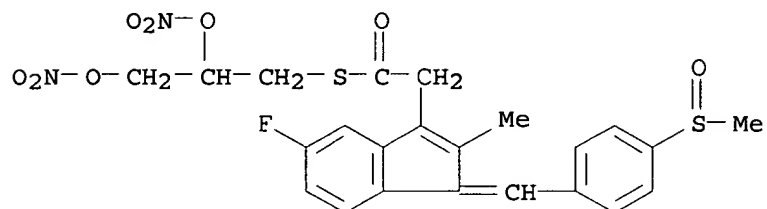


09/473,713



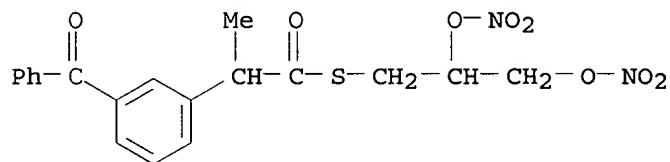
RN 854925-47-6 HCAPLUS

CN 1H-Indene-3-ethanethioic acid, 5-fluoro-2-methyl-1-[[4-(methylsulfinyl)phenyl]methylene]-, S-[2,3-bis(nitrooxy)propyl] ester (9CI) (CA INDEX NAME)



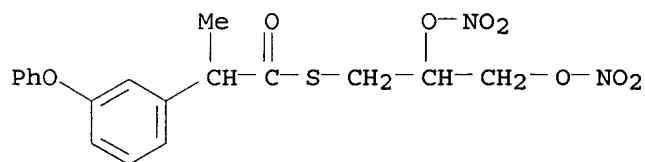
RN 854925-48-7 HCAPLUS

CN Benzeneethanethioic acid, 3-benzoyl- $\alpha$ -methyl-, S-[2,3-bis(nitrooxy)propyl] ester (9CI) (CA INDEX NAME)



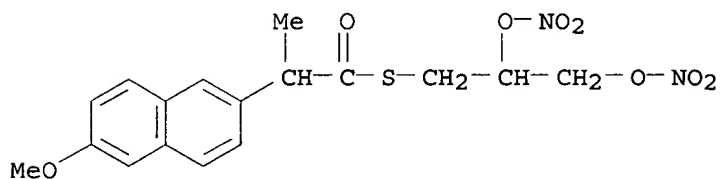
RN 854925-49-8 HCAPLUS

CN Benzeneethanethioic acid,  $\alpha$ -methyl-3-phenoxy-, S-[2,3-bis(nitrooxy)propyl] ester (9CI) (CA INDEX NAME)



RN 854925-50-1 HCAPLUS

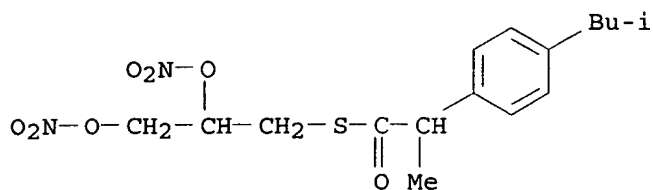
CN 2-Naphthaleneethanethioic acid, 6-methoxy- $\alpha$ -methyl-, S-[2,3-bis(nitrooxy)propyl] ester (9CI) (CA INDEX NAME)



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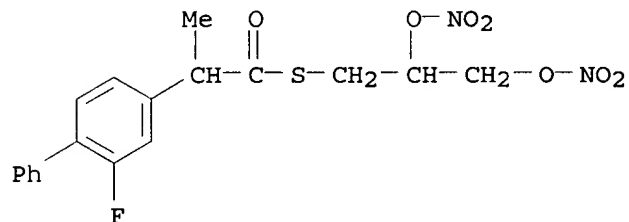
RN 854925-51-2 HCAPLUS

CN Benzeneethanethioic acid,  $\alpha$ -methyl-4-(2-methylpropyl)-, S-[2,3-bis(nitrooxy)propyl] ester (9CI) (CA INDEX NAME)



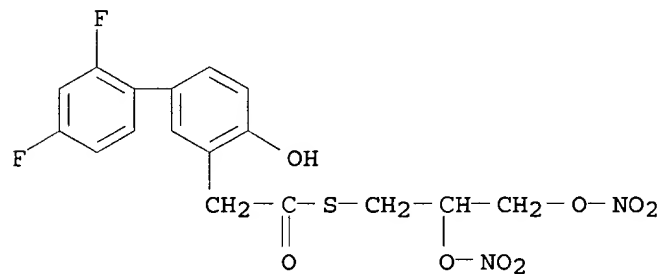
RN 854925-52-3 HCAPLUS

CN [1,1'-Biphenyl]-4-ethanethioic acid, 2-fluoro- $\alpha$ -methyl-, S-[2,3-bis(nitrooxy)propyl] ester (9CI) (CA INDEX NAME)



RN 854925-53-4 HCAPLUS

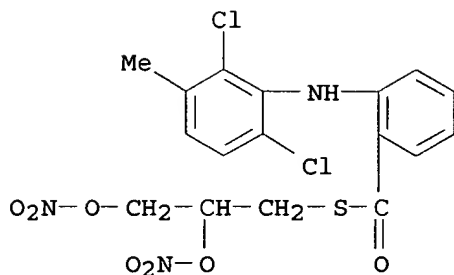
CN [1,1'-Biphenyl]-3-ethanethioic acid, 2',4'-difluoro-4-hydroxy-, S-[2,3-bis(nitrooxy)propyl] ester (9CI) (CA INDEX NAME)



RN 854925-54-5 HCAPLUS

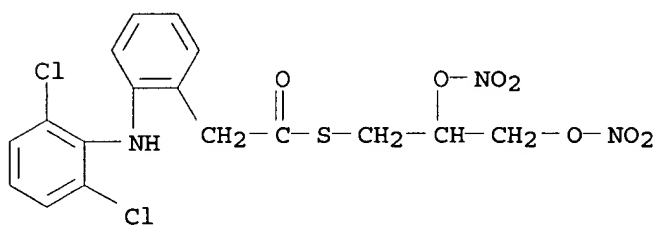
CN Benzenecarbothioic acid, 2-[(2,6-dichloro-3-methylphenyl)amino]-, S-[2,3-bis(nitrooxy)propyl] ester (9CI) (CA INDEX NAME)

09/473,713



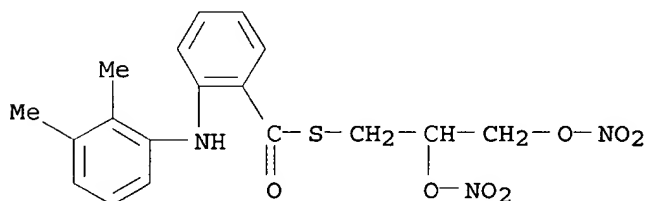
RN 854925-55-6 HCAPLUS

CN Benzenecarbothioic acid, 2-[(2,6-dichlorophenyl)amino]-, S-[2,3-bis(nitrooxy)propyl] ester (9CI) (CA INDEX NAME)



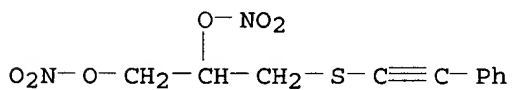
RN 854925-56-7 HCAPLUS

CN Benzenecarbothioic acid, 2-[(2,3-dimethylphenyl)amino]-, S-[2,3-bis(nitrooxy)propyl] ester (9CI) (CA INDEX NAME)



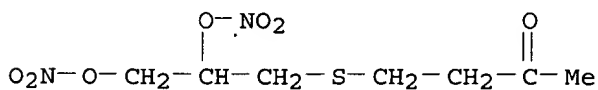
RN 854925-57-8 HCAPLUS

CN 1,2-Propanediol, 3-[(phenylethynyl)thio]-, dinitrate (9CI) (CA INDEX NAME)



RN 854925-58-9 HCAPLUS

CN 2-Butanone, 4-[[2,3-bis(nitrooxy)propyl]thio]- (9CI) (CA INDEX NAME)

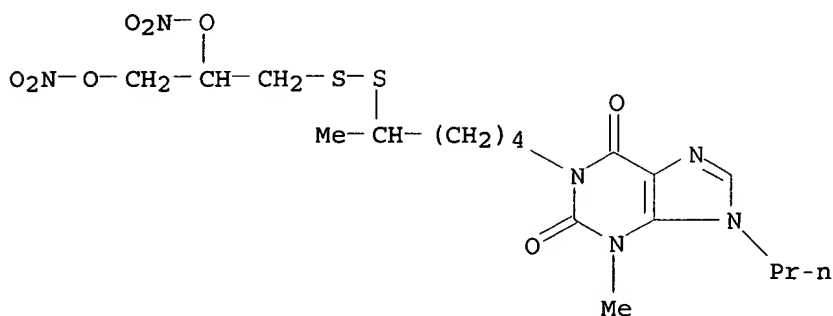


Delacroix<C>

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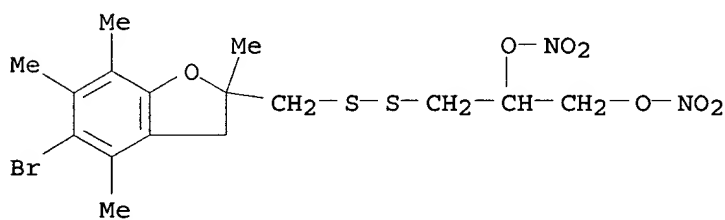
RN 854925-73-8 HCAPLUS

CN 1H-Purine-2,6-dione, 1-[5-[[2,3-bis(nitrooxy)propyl]dithio]hexyl]-3,9-dihydro-3-methyl-9-propyl- (9CI) (CA INDEX NAME)



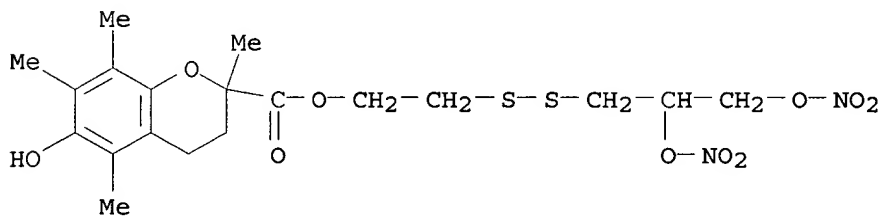
RN 854925-74-9 HCAPLUS

CN 1,2-Propanediol, 3-[[[5-bromo-2,3-dihydro-2,4,6,7-tetramethyl-2-benzofuranyl)methyl]dithio]-, dinitrate (9CI) (CA INDEX NAME)



RN 854925-75-0 HCAPLUS

CN 2H-1-Benzopyran-2-carboxylic acid, 3,4-dihydro-6-hydroxy-2,5,7,8-tetramethyl-, 2-[[2,3-bis(nitrooxy)propyl]dithio]ethyl ester (9CI) (CA INDEX NAME)

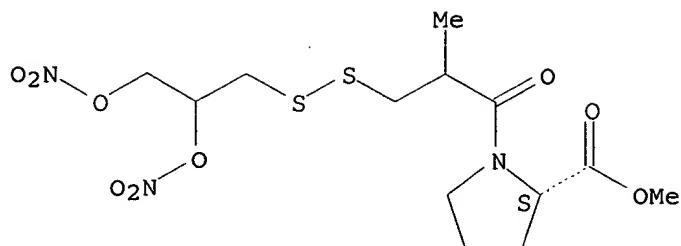


RN 854925-76-1 HCAPLUS

CN L-Proline, 1-[3-[[2,3-bis(nitrooxy)propyl]dithio]-2-methyl-1-oxopropyl]-, methyl ester (9CI) (CA INDEX NAME)

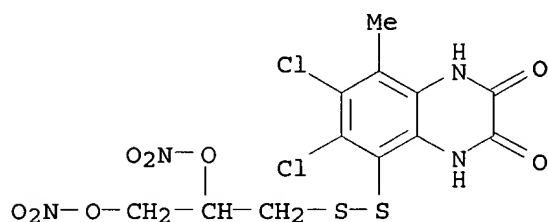
Absolute stereochemistry.

09/473,713



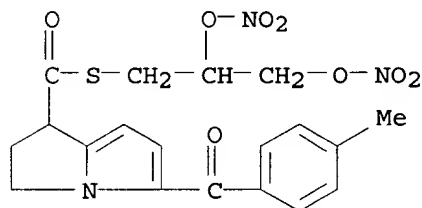
RN 854925-77-2 HCAPLUS

CN 2,3-Quinoxalinedione, 5-[[2,3-bis(nitrooxy)propyl]dithio]-6,7-dichloro-1,4-dihydro-8-methyl- (9CI) (CA INDEX NAME)



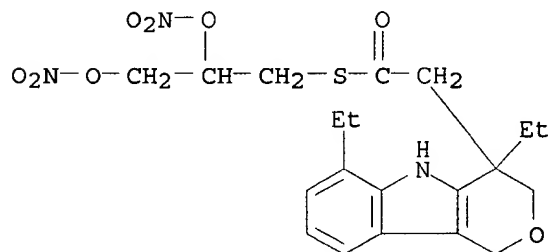
RN 854925-78-3 HCAPLUS

CN 1H-Pyrrolizine-1-carbothioic acid, 2,3-dihydro-5-(4-methylbenzoyl)-, S-[2,3-bis(nitrooxy)propyl] ester (9CI) (CA INDEX NAME)



RN 854925-79-4 HCAPLUS

CN Pyrano[4,3-b]indole-4-ethanethioic acid, 4,6-diethyl-1,3,4,5-tetrahydro-, S-[2,3-bis(nitrooxy)propyl] ester (9CI) (CA INDEX NAME)

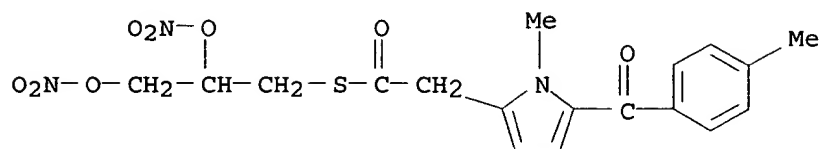


RN 854925-80-7 HCAPLUS

CN 1H-Pyrrole-2-ethanethioic acid, 1-methyl-5-(4-methylbenzoyl)-, S-[2,3-bis(nitrooxy)propyl] ester (9CI) (CA INDEX NAME)

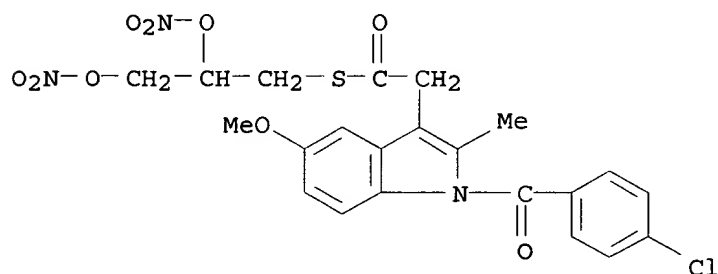
09/473,713

S-[2,3-bis(nitrooxy)propyl] ester (9CI) (CA INDEX NAME)



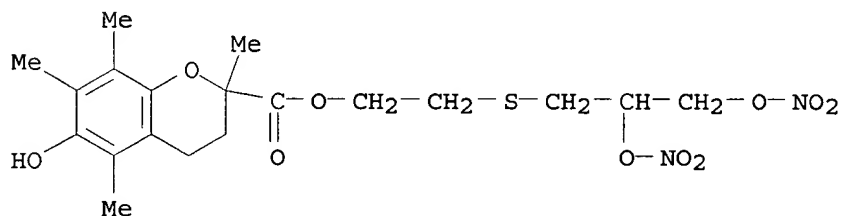
RN 854925-81-8 HCAPLUS

CN 1H-Indole-3-ethanethioic acid, 1-(4-chlorobenzoyl)-5-methoxy-2-methyl-, S-[2,3-bis(nitrooxy)propyl] ester (9CI) (CA INDEX NAME)



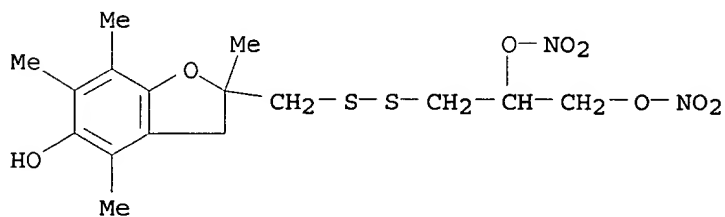
RN 854925-82-9 HCAPLUS

CN 2H-1-Benzopyran-2-carboxylic acid, 3,4-dihydro-6-hydroxy-2,5,7,8-tetramethyl-, 2-[[2,3-bis(nitrooxy)propyl]thio]ethyl ester (9CI) (CA INDEX NAME)



RN 854926-58-2 HCAPLUS

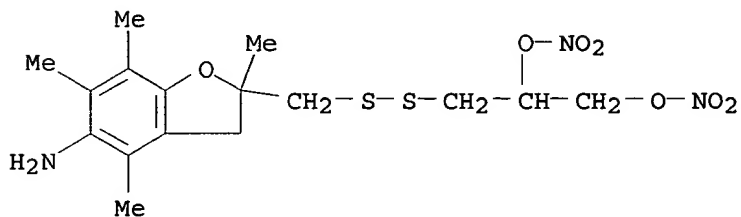
CN 1,2-Propanediol, 3-[[[(2,3-dihydro-5-hydroxy-2,4,6,7-tetramethyl-2-benzofuranyl)methyl]dithio]-, 1,2-dinitrate (9CI) (CA INDEX NAME)



RN 854926-59-3 HCAPLUS

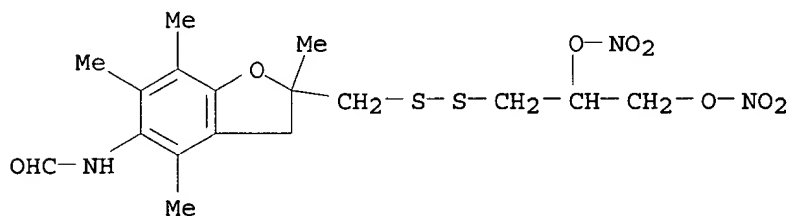
09/473,713

CN 1,2-Propanediol, 3-[[[5-amino-2,3-dihydro-2,4,6,7-tetramethyl-2-benzofuranyl)methyl]dithio]-, dinitrate (ester) (9CI) (CA INDEX NAME)



RN 854926-60-6 HCAPLUS

CN Formamide, N-[2-[[[2,3-bis(nitrooxy)propyl]dithio]methyl]-2,3-dihydro-2,4,6,7-tetramethyl-5-benzofuranyl]- (9CI) (CA INDEX NAME)



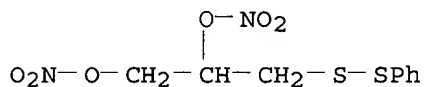
IT 349472-79-3P 349481-52-3P 349481-53-4P  
349481-54-5P 349481-55-6P 349481-59-0P  
349481-61-4P 349481-64-7P 349482-22-0P  
349487-37-2P 349487-38-3P 854926-56-0P  
854926-57-1P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of nitrate esters having a β- or γ-sulfur atom for protection of cells/tissues from oxidative damage)

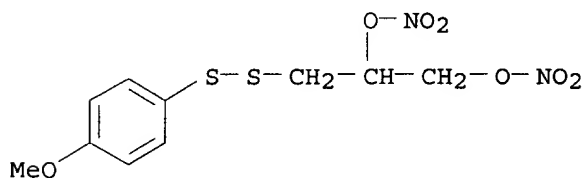
RN 349472-79-3 HCAPLUS

CN 1,2-Propanediol, 3-(phenyldithio)-, dinitrate (9CI) (CA INDEX NAME)



RN 349481-52-3 HCAPLUS

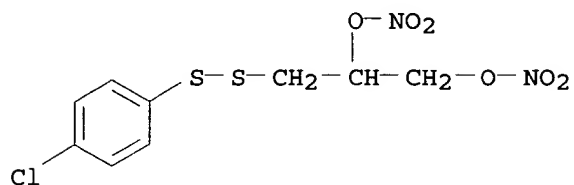
CN 1,2-Propanediol, 3-[(4-methoxyphenyl)dithio]-, dinitrate (9CI) (CA INDEX NAME)



09/473,713

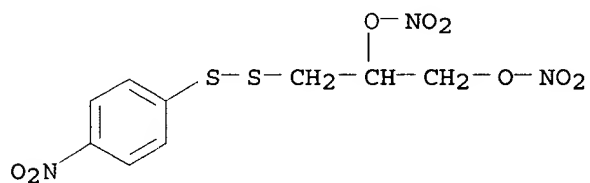
RN 349481-53-4 HCAPLUS

CN 1,2-Propanediol, 3-[(4-chlorophenyl)dithio]-, dinitrate (9CI) (CA INDEX NAME)



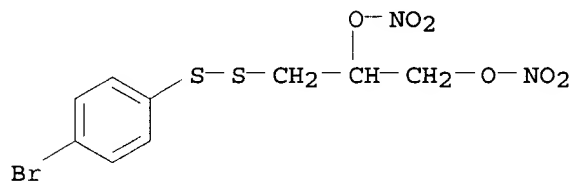
RN 349481-54-5 HCAPLUS

CN 1,2-Propanediol, 3-[(4-nitrophenyl)dithio]-, dinitrate (ester) (9CI) (CA INDEX NAME)



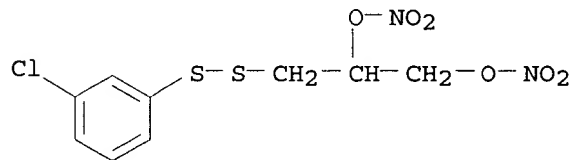
RN 349481-55-6 HCAPLUS

CN 1,2-Propanediol, 3-[(4-bromophenyl)dithio]-, dinitrate (9CI) (CA INDEX NAME)



RN 349481-59-0 HCAPLUS

CN 1,2-Propanediol, 3-[(3-chlorophenyl)dithio]-, dinitrate (9CI) (CA INDEX NAME)

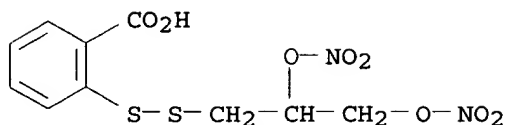


RN 349481-61-4 HCAPLUS

CN Benzoic acid, 2-[[2,3-bis(nitrooxy)propyl]dithio]- (9CI) (CA INDEX NAME)

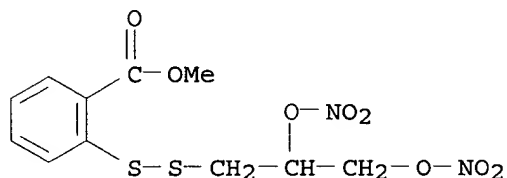


09/473,713



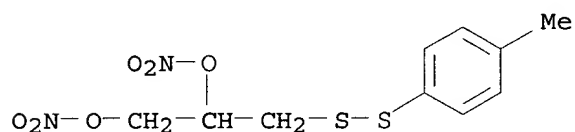
RN 349481-64-7 HCAPLUS

CN Benzoic acid, 2-[[2,3-bis(nitrooxy)propyl]dithio]-, methyl ester (9CI)  
(CA INDEX NAME)



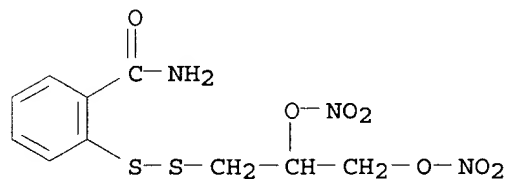
RN 349482-22-0 HCAPLUS

CN 1,2-Propanediol, 3-[(4-methylphenyl)dithio]-, dinitrate (9CI) (CA INDEX NAME)



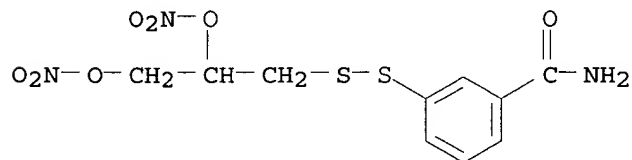
RN 349487-37-2 HCAPLUS

CN Benzamide, 2-[[2,3-bis(nitrooxy)propyl]dithio]- (9CI) (CA INDEX NAME)



RN 349487-38-3 HCAPLUS

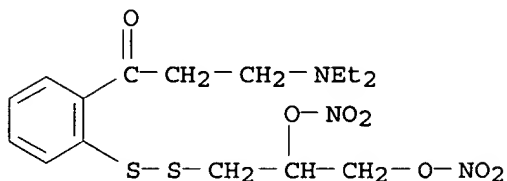
CN Benzamide, 3-[[2,3-bis(nitrooxy)propyl]dithio]- (9CI) (CA INDEX NAME)



RN 854926-56-0 HCAPLUS

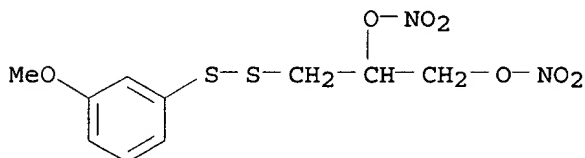
09/473,713

CN 1-Propanone, 1-[2-[[2,3-bis(nitrooxy)propyl]dithio]phenyl]-3-(diethylamino)- (9CI) (CA INDEX NAME)



RN 854926-57-1 HCAPLUS

CN 1,2-Propanediol, 3-[(3-methoxyphenyl)dithio]-, dinitrate (9CI) (CA INDEX NAME)



IT 179677-60-2 200419-00-7 294191-05-2

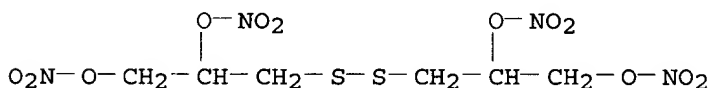
294191-06-3 294191-10-9 854926-51-5

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(preparation of nitrate esters having a β- or γ-sulfur atom for protection of cells/tissues from oxidative damage)

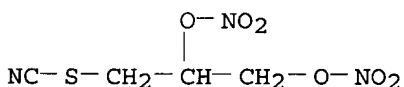
RN 179677-60-2 HCAPLUS

CN 1,2-Propanediol, 3,3'-dithiobis-, tetranitrate (9CI) (CA INDEX NAME)



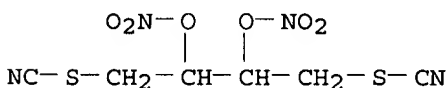
RN 200419-00-7 HCAPLUS

CN Thiocyanic acid, 2,3-bis(nitrooxy)propyl ester (9CI) (CA INDEX NAME)



RN 294191-05-2 HCAPLUS

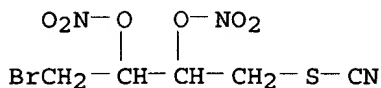
CN Thiocyanic acid, 2,3-bis(nitrooxy)-1,4-butanediyl ester (9CI) (CA INDEX NAME)



09/473,713

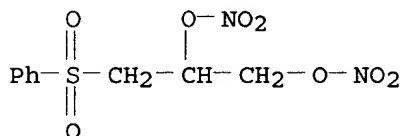
RN 294191-06-3 HCAPLUS

CN Thiocyanic acid, 4-bromo-2,3-bis(nitrooxy)butyl ester (9CI) (CA INDEX NAME)



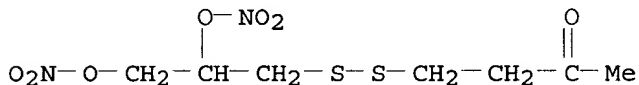
RN 294191-10-9 HCAPLUS

CN 1,2-Propanediol, 3-(phenylsulfonyl)-, dinitrate (9CI) (CA INDEX NAME)



RN 854926-51-5 HCAPLUS

CN 2-Butanone, 4-[[2,3-bis(nitrooxy)propyl]dithio]- (9CI) (CA INDEX NAME)



L18 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

AB Methods and therapeutic compds. for treating pain, mitigating inflammation, effecting analgesia and/or effecting **sedation** in a subject are described. A subject is administered an effective amount of a therapeutic compound, e.g. 4-methylthiazole-5-Et nitrate (I), which is a nitrate ester. I shows a mean of 54.21 s at 10 mg/kg in scopolamine-impaired learning assay. Novel pharmaceutical compns. are also described.

2001:507519 Document Number 135:92207 Synthesis, methods and compositions of organic nitrates for mitigating pain. Thatcher, Gregory R. J.; Bennett, Brian M.; Reynolds, James N.; Jhamandas, Khem (Queen's University at Kingston, Can.). PCT Int. Appl. WO 2001049275 A2 20010712, 114 pp.

DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2000-CA1523 20001227. PRIORITY: US 1999-473713 19991229.

AB Methods and therapeutic compds. for treating pain, mitigating inflammation, effecting analgesia and/or effecting **sedation** in a subject are described. A subject is administered an effective amount of a therapeutic compound, e.g. 4-methylthiazole-5-Et nitrate (I), which. . .

ST org nitrate prepn analgesic **sedative**; pain treatment inflammation mitigation org nitrate

IT Analgesics

## Hypnotics and Sedatives

## Pain

(synthesis, methods and compns. of organic nitrates for mitigating pain)

IT 294191-04-1P 349472-66-8P 349472-71-5P 349472-74-8P  
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(synthesis, methods and compns. of organic nitrates for mitigating pain)

IT 55-63-0P 2612-33-1P 17115-36-5P 65051-92-5P 98019-81-9P  
 109967-12-6P 179677-60-2P 220046-01-5P 220046-02-6P  
 252568-49-3P 294191-00-7P 294191-03-0P 294191-05-2P  
 294191-06-3P 294191-07-4P 294191-08-5P 294191-09-6P  
 294191-10-9P 294191-11-0P 294191-12-1P 294191-15-4P  
 349472-60-2P 349472-61-3P 349472-62-4P  
 349472-63-5P 349472-64-6P 349472-65-7P  
 349472-67-9P 349472-68-0P 349472-69-1P  
 349472-79-3P 349481-52-3P 349481-53-4P  
 349481-54-5P 349481-55-6P 349481-56-7P  
 349481-57-8P 349481-58-9P 349481-59-0P  
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 349481-67-0P 349481-68-1P 349481-70-5P 349482-21-9P  
 349482-22-0P 349487-17-8P 349487-18-9P 349487-19-0P  
 349487-20-3P 349487-21-4P 349487-22-5P 349487-23-6P 349487-24-7P  
 349487-25-8P 349487-26-9P 349487-27-0P 349487-28-1P 349487-29-2P  
 349487-30-5P 349487-31-6P 349487-32-7P 349487-33-8P  
 349487-34-9P 349487-35-0P 349487-36-1P  
 349487-37-2P 349487-38-3P 349487-39-4P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(synthesis, methods and compns. of organic nitrates for mitigating pain)

IT 106-45-6P, 4-Methylbenzenethiol 4704-77-2P, 1-Bromo-2,3-propanediol  
 33835-83-5P 90490-21-4P 179677-61-3P 200419-00-7P  
 299964-29-7P 349472-72-6P 349472-73-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

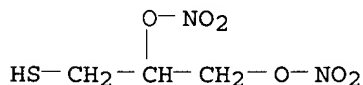
(synthesis, methods and compns. of organic nitrates for mitigating pain)

IT 349472-66-8P  
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(synthesis, methods and compns. of organic nitrates for mitigating pain)

RN 349472-66-8 HCAPLUS

CN 1,2-Propanediol, 3-mercapto-, 1,3-dinitrate (9CI) (CA INDEX NAME)



IT 179677-60-2P 294191-05-2P 294191-06-3P  
 294191-10-9P 349472-60-2P 349472-62-4P  
 349472-63-5P 349472-64-6P 349472-65-7P  
 349472-67-9P 349472-69-1P 349472-79-3P  
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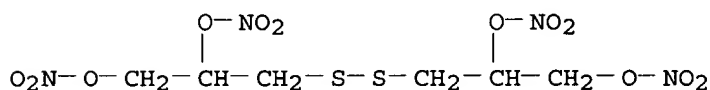
09/473,713

349481-55-6P 349481-56-7P 349481-57-8P  
349481-58-9P 349481-59-0P 349481-60-3P  
349481-61-4P 349481-62-5P 349481-64-7P  
349481-65-8P 349481-70-5P 349482-22-0P  
349487-17-8P 349487-31-6P 349487-32-7P  
349487-34-9P 349487-35-0P 349487-36-1P  
349487-37-2P 349487-38-3P 349487-39-4P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(synthesis, methods and compns. of organic nitrates for mitigating pain)

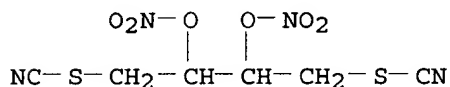
RN 179677-60-2 HCAPLUS

CN 1,2-Propanediol, 3,3'-dithiobis-, tetranitrate (9CI) (CA INDEX NAME)



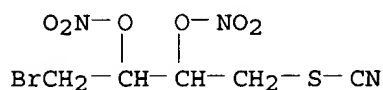
RN 294191-05-2 HCAPLUS

CN Thiocyanic acid, 2,3-bis(nitrooxy)-1,4-butanediyl ester (9CI) (CA INDEX NAME)



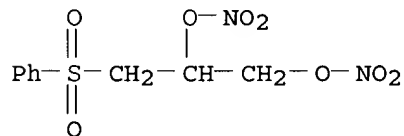
RN 294191-06-3 HCAPLUS

CN Thiocyanic acid, 4-bromo-2,3-bis(nitrooxy)butyl ester (9CI) (CA INDEX NAME)



RN 294191-10-9 HCAPLUS

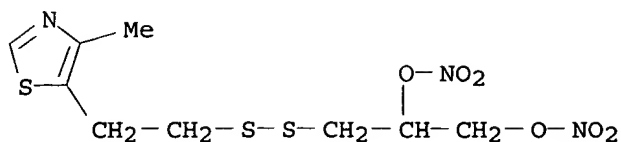
CN 1,2-Propanediol, 3-(phenylsulfonyl)-, dinitrate (9CI) (CA INDEX NAME)



RN 349472-60-2 HCAPLUS

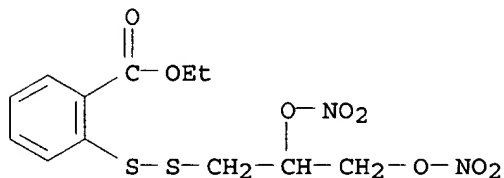
CN 1,2-Propanediol, 3-[[2-(4-methyl-5-thiazolyl)ethyl]dithio]-, dinitrate (ester) (9CI) (CA INDEX NAME)

09/473,713



RN 349472-62-4 HCAPLUS

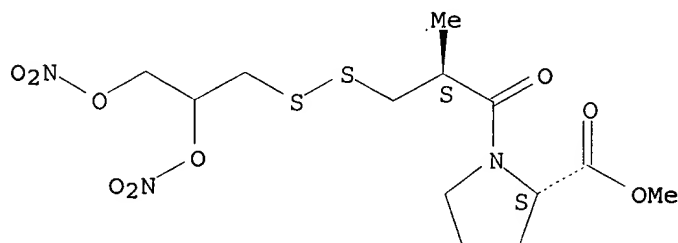
CN Benzoic acid, 2-[[2,3-bis(nitrooxy)propyl]dithio]-, ethyl ester (9CI) (CA INDEX NAME)



RN 349472-63-5 HCAPLUS

CN L-Proline, 1-[(2S)-3-[[2,3-bis(nitrooxy)propyl]dithio]-2-methyl-1-oxopropyl]-, methyl ester (9CI) (CA INDEX NAME)

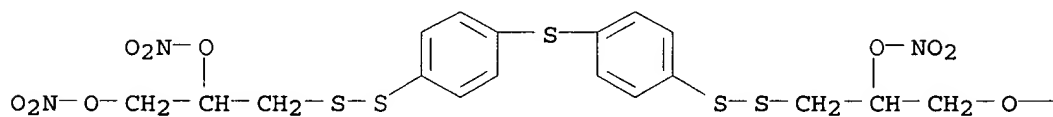
Absolute stereochemistry.



RN 349472-64-6 HCAPLUS

CN 1,2-Propanediol, 3,3'-[thiobis(4,1-phenylenedithio)]bis-, tetranitrate (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

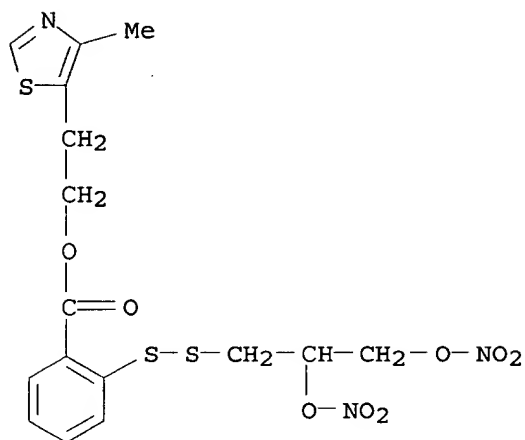
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Delacroix<C>

09/473,713

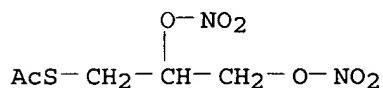
RN 349472-65-7 HCAPLUS

CN Benzoic acid, 2-[[2,3-bis(nitrooxy)propyl]dithio]-, 2-(4-methyl-5-thiazolyl)ethyl ester (9CI) (CA INDEX NAME)



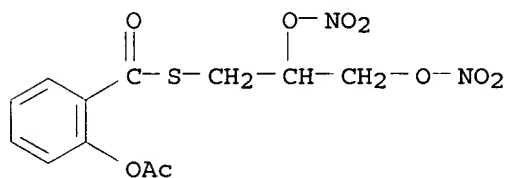
RN 349472-67-9 HCAPLUS

CN Ethanethioic acid, S-[2,3-bis(nitrooxy)propyl] ester (9CI) (CA INDEX NAME)



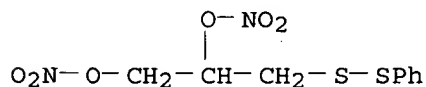
RN 349472-69-1 HCAPLUS

CN Benzenecarbothioic acid, 2-(acetyloxy)-, S-[2,3-bis(nitrooxy)propyl] ester (9CI) (CA INDEX NAME)



RN 349472-79-3 HCAPLUS

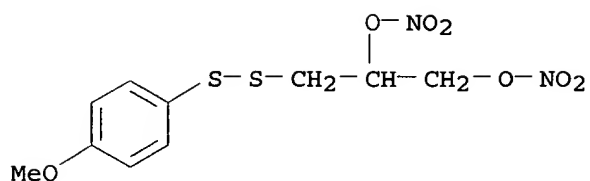
CN 1,2-Propanediol, 3-(phenyldithio)-, dinitrate (9CI) (CA INDEX NAME)



RN 349481-52-3 HCAPLUS

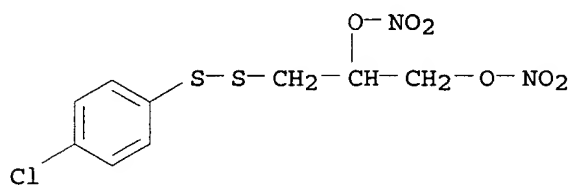
CN 1,2-Propanediol, 3-[(4-methoxyphenyl)dithio]-, dinitrate (9CI) (CA INDEX NAME)

09/473,713



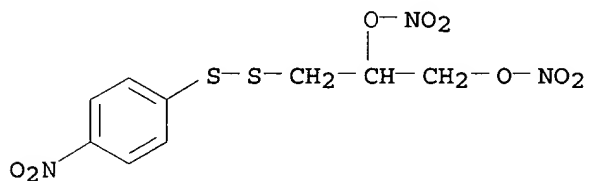
RN 349481-53-4 HCAPLUS

CN 1,2-Propanediol, 3-[(4-chlorophenyl)dithio]-, dinitrate (9CI) (CA INDEX NAME)



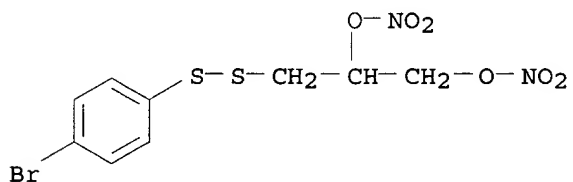
RN 349481-54-5 HCAPLUS

CN 1,2-Propanediol, 3-[(4-nitrophenyl)dithio]-, dinitrate (ester) (9CI) (CA INDEX NAME)



RN 349481-55-6 HCAPLUS

CN 1,2-Propanediol, 3-[(4-bromophenyl)dithio]-, dinitrate (9CI) (CA INDEX NAME)



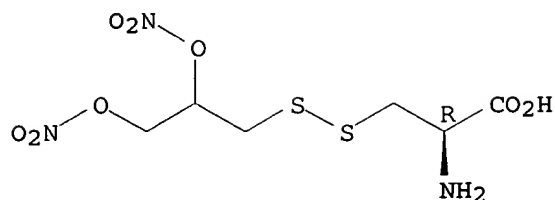
RN 349481-56-7 HCAPLUS

CN L-Alanine, 3-[[2,3-bis(nitrooxy)propyl]dithio]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

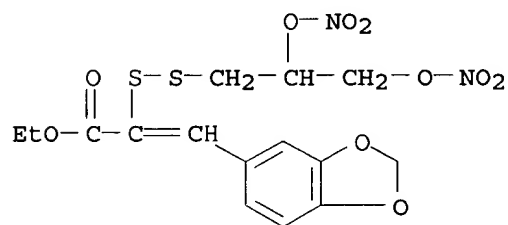


09/473,713



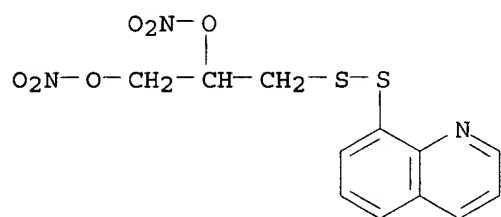
RN 349481-57-8 HCAPLUS

CN 2-Propenoic acid, 3-(1,3-benzodioxol-5-yl)-2-[[2,3-bis(nitrooxy)propyl]dithio]-, ethyl ester (9CI) (CA INDEX NAME)



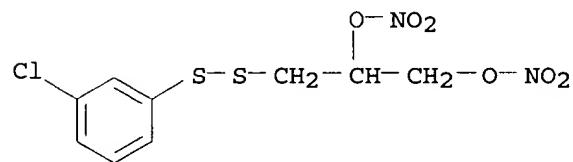
RN 349481-58-9 HCAPLUS

CN 1,2-Propanediol, 3-(8-quinolinyldithio)-, dinitrate (ester) (9CI) (CA INDEX NAME)



RN 349481-59-0 HCAPLUS

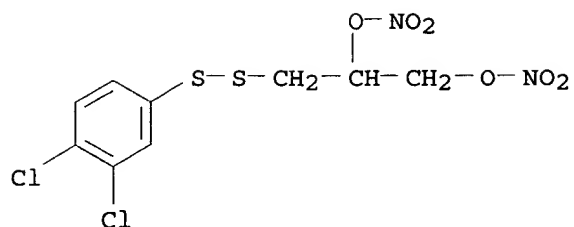
CN 1,2-Propanediol, 3-[(3-chlorophenyl)dithio]-, dinitrate (9CI) (CA INDEX NAME)



RN 349481-60-3 HCAPLUS

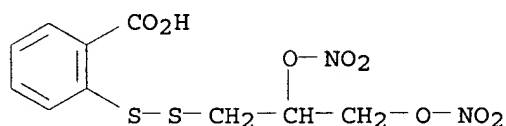
CN 1,2-Propanediol, 3-[(3,4-dichlorophenyl)dithio]-, dinitrate (9CI) (CA INDEX NAME)

09/473,713



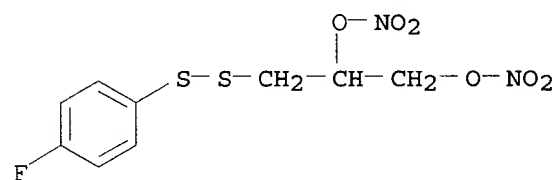
RN 349481-61-4 HCAPLUS

CN Benzoic acid, 2-[[2,3-bis(nitrooxy)propyl]dithio]- (9CI) (CA INDEX NAME)



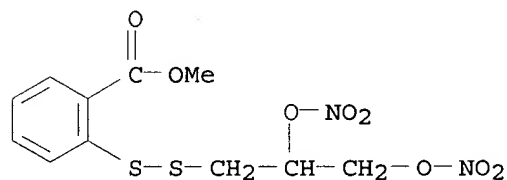
RN 349481-62-5 HCAPLUS

CN 1,2-Propanediol, 3-[[4-fluorophenyl]dithio]-, dinitrate (9CI) (CA INDEX NAME)



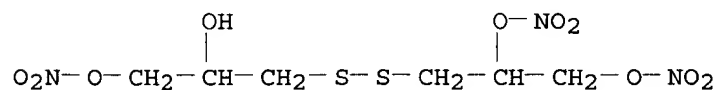
RN 349481-64-7 HCAPLUS

CN Benzoic acid, 2-[[2,3-bis(nitrooxy)propyl]dithio]-, methyl ester (9CI) (CA INDEX NAME)



RN 349481-65-8 HCAPLUS

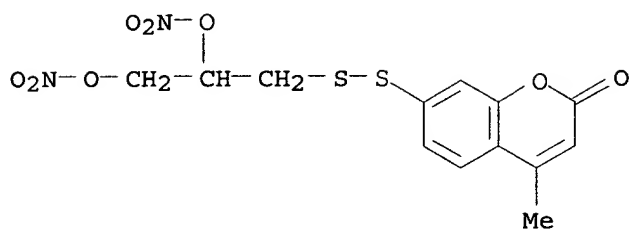
CN 1,2-Propanediol, 3-[[2,3-bis(nitrooxy)propyl]dithio]-, 1-nitrate (9CI) (CA INDEX NAME)



RN 349481-70-5 HCAPLUS

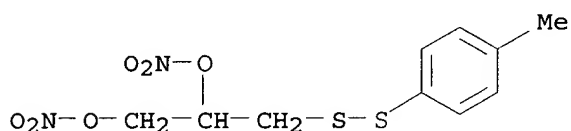
09/473,713

CN 2H-1-Benzopyran-2-one, 7-[[2,3-bis(nitrooxy)propyl]dithio]-4-methyl- (9CI)  
(CA INDEX NAME)



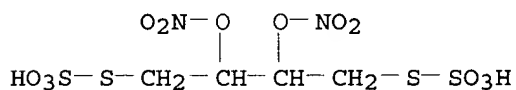
RN 349482-22-0 HCAPLUS

CN 1,2-Propanediol, 3-[(4-methylphenyl)dithio]-, dinitrate (9CI) (CA INDEX NAME)



RN 349487-17-8 HCAPLUS

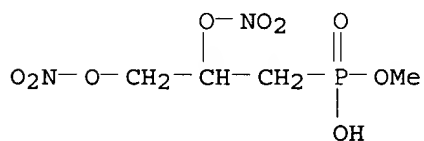
CN Thiosulfuric acid (H<sub>2</sub>S<sub>2</sub>O<sub>3</sub>), S,S'-[2,3-bis(nitrooxy)-1,4-butanediyl] ester, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

RN 349487-31-6 HCAPLUS

CN Phosphonic acid, [2,3-bis(nitrooxy)propyl]-, monomethyl ester, sodium salt (9CI) (CA INDEX NAME)

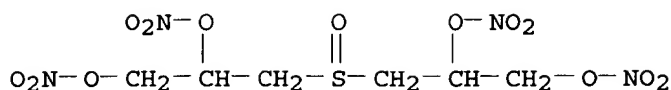


● Na

RN 349487-32-7 HCAPLUS

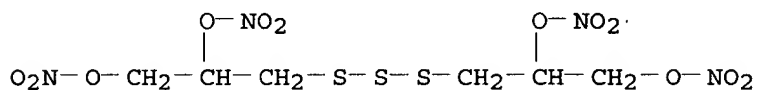
CN 1,2-Propanediol, 3,3'-sulfinylbis-, tetranitrate (9CI) (CA INDEX NAME)

09/473,713



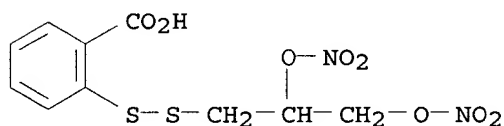
RN 349487-34-9 HCAPLUS

CN 1,2-Propanediol, 3,3'-trithiobis-, tetranitrate (9CI) (CA INDEX NAME)



RN 349487-35-0 HCAPLUS

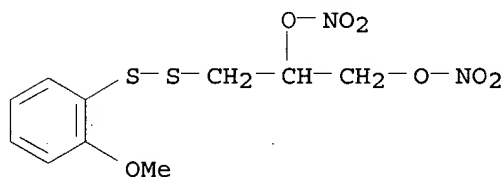
CN Benzoic acid, 2-[[2,3-bis(nitrooxy)propyl]dithio]-, sodium salt (9CI) (CA INDEX NAME)



● Na

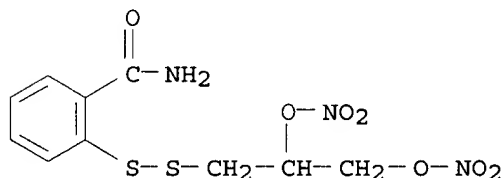
RN 349487-36-1 HCAPLUS

CN 1,2-Propanediol, 3-[(2-methoxyphenyl)dithio]-, dinitrate (9CI) (CA INDEX NAME)



RN 349487-37-2 HCAPLUS

CN Benzamide, 2-[[2,3-bis(nitrooxy)propyl]dithio]- (9CI) (CA INDEX NAME)

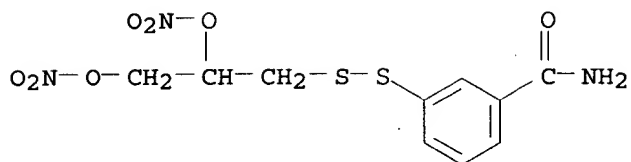


RN 349487-38-3 HCAPLUS

CN Benzamide, 3-[[2,3-bis(nitrooxy)propyl]dithio]- (9CI) (CA INDEX NAME)

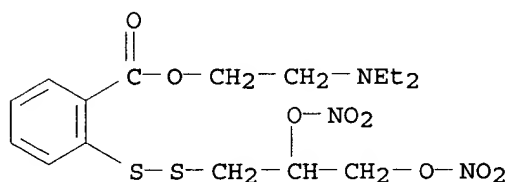
Delacroix<C>

09/473,713



RN 349487-39-4 HCAPLUS

CN Benzoic acid, 2-[[2,3-bis(nitrooxy)propyl]dithio]-, 2-(diethylamino)ethyl ester (9CI) (CA INDEX NAME)

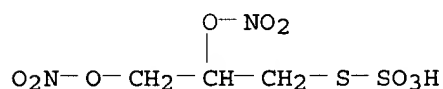


IT 179677-61-3P 200419-00-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(synthesis, methods and compns. of organic nitrates for mitigating pain)

RN 179677-61-3 HCAPLUS

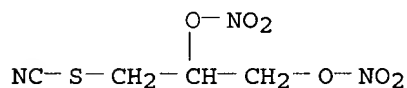
CN Thiosulfuric acid (H<sub>2</sub>S<sub>2</sub>O<sub>3</sub>), S-[2,3-bis(nitrooxy)propyl] ester, sodium salt (9CI) (CA INDEX NAME)



● Na

RN 200419-00-7 HCAPLUS

CN Thiocyanic acid, 2,3-bis(nitrooxy)propyl ester (9CI) (CA INDEX NAME)



L18 ANSWER 3 OF 5 USPATFULL on STN

AB Compounds and methods for mitigating neurodegeneration, effecting neuroprotection and/or effecting cognition enhancement in a subject are described. Neurological or cognitive conditions are treated by administering to a subject an effective amount of a therapeutic compound comprising a nitrate ester, or a pharmaceutically acceptable salt or ester thereof.

Delacroix<C>

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

2002:315135 Nitrate esters and their use for neurological conditions.

Thatcher, Gregory R.J., Kingston, CANADA

Bennett, Brian M., Kingston, CANADA

Reynolds, James N., Kingston, CANADA

Boegman, Roland J., Kingston, CANADA

Jhamandas, Khem, Kingston, CANADA

US 2002177622 A1 20021128

APPLICATION: US 2002-147808 A1 20020520 (10)

DOCUMENT TYPE: Utility; APPLICATION.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

DRWD [0070] FIG. 19 is a graph showing a comparison of the percent change in mean arterial pressure in Inactin **anaesthetized** rats after intravenous bolus injection of GTN (squares) or Va (open circles). Data points represent the mean±standard errors (n=4).

DETD . . . Mongolian gerbils were subjected to 5 minutes of global forebrain ischemia by occlusion of the common carotid arteries under halothane **anesthesia**. This period of ischemia produces a selective neuronal cell death in the CA1 region of the hippocampus that develops over. . .

DETD . . . model tested was transient focal cerebral ischemia in the rat induced by occlusion of the middle cerebral artery. Under halothane **anesthesia**, a filament was advanced into the right internal carotid artery until the origin of the right middle cerebral artery was. . . The filament was secured, the animal allowed to regain consciousness, and two hours later the filament was removed under halothane **anesthesia**. Animals were given five subcutaneous doses of drug vehicle or 200 µmol/kg Va at 2, 3, 4, 6, and 8. . .

DETD . . . as compared to the contralateral striatum. Pretreatment of these animals with GTN (administered as a subcutaneous patch inserted under halothane **anesthesia** one hour prior to the NMDA infusion) at doses of 0.2 and 0.4 mg/hr produced a dose-dependent reduction in the. . .

IT 98019-81-9P 179677-60-2P 179677-61-3P 179677-62-4P  
179677-63-5P 200418-98-0P 200418-99-1P 200419-00-7P  
200419-01-8P

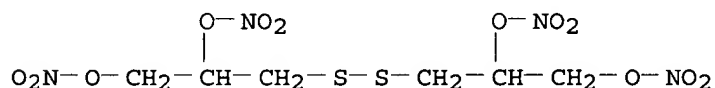
(preparation of aliphatic nitrate esters for treatment of neurol. conditions)

IT 179677-60-2P 179677-61-3P 200418-98-0P  
200419-00-7P

(preparation of aliphatic nitrate esters for treatment of neurol. conditions)

RN 179677-60-2 USPATFULL

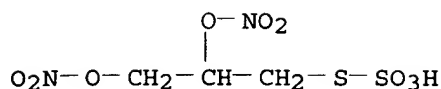
CN 1,2-Propanediol, 3,3'-dithiobis-, tetranitrate (9CI) (CA INDEX NAME)



RN 179677-61-3 USPATFULL

CN Thiosulfuric acid (H<sub>2</sub>S<sub>2</sub>O<sub>3</sub>), S-[2,3-bis(nitrooxy)propyl] ester, sodium salt (9CI) (CA INDEX NAME)

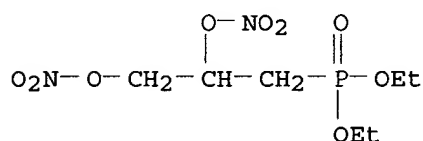
09/473,713



● Na

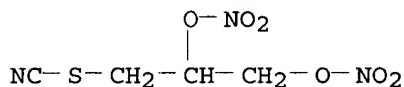
RN 200418-98-0 USPATFULL

CN Phosphonic acid, [2,3-bis(nitrooxy)propyl]-, diethyl ester (9CI) (CA INDEX NAME)



RN 200419-00-7 USPATFULL

CN Thiocyanic acid, 2,3-bis(nitrooxy)propyl ester (9CI) (CA INDEX NAME)



L18 ANSWER 4 OF 5 USPATFULL on STN

AB Compounds and methods for mitigating neurodegeneration, effecting neuroprotection and/or effecting cognition enhancement in a subject are described. Neurological or cognitive conditions are treated by administering to a subject an effective amount of a therapeutic compound comprising a nitrate ester, or a pharmaceutically acceptable salt or ester thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

2002:266352 Nitrate esters and methods of making same.

Thatcher, Gregory R.J., Kingston, CANADA

Bennett, Brian M., Kingston, CANADA

Reynolds, James N., Kingston, CANADA

Boegman, Roland J., Kingston, CANADA

Jhamandas, Khem, Kingston, CANADA

US 2002147234 A1 20021010

APPLICATION: US 2002-108513 A1 20020329 (10)

DOCUMENT TYPE: Utility; APPLICATION.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

DRWD [0070] FIG. 19 is a graph showing a comparison of the percent change in mean arterial pressure in Inactin **anaesthetized** rats after intravenous bolus injection of GTN (squares) or Va (open circles). Data points represent the mean±standard errors (n=4).

DETD . . . Mongolian gerbils were subjected to 5 minutes of global forebrain ischemia by occlusion of the common carotid arteries under halothane **anesthesia**. This period of ischemia produces a selective neuronal cell death in the CA 1 region of the hippocampus that develops. . .

09/473,713

DETD . . . model tested was transient focal cerebral ischemia in the rat induced by occlusion of the middle cerebral artery. Under halothane **anesthesia**, a filament was advanced into the right internal carotid artery until the origin of the right middle cerebral artery was. . . The filament was secured, the animal allowed to regain consciousness, and two hours later the filament was removed under halothane **anesthesia**. Animals were given five subcutaneous doses of drug vehicle or 200  $\mu$ mol/kg Va at 2, 3, 4, 6, and 8. . .

DETD . . . compared to the contralateral striatum. d Pretreatment of these animals with GTN (administered as a subcutaneous patch inserted under halothane **anesthesia** one hour prior to the NMDA infusion) at doses of 0.2 and 0.4 mg/hr produced a dose-dependent reduction in the.

IT 98019-81-9P 179677-60-2P 179677-61-3P 179677-62-4P  
179677-63-5P 200418-98-0P 200418-99-1P 200419-00-7P  
200419-01-8P

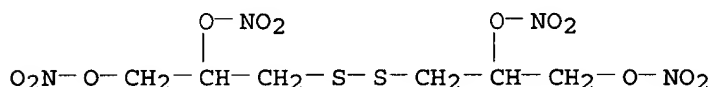
(preparation of aliphatic nitrate esters for treatment of neurol. conditions)

IT 179677-60-2P 179677-61-3P 200418-98-0P  
200419-00-7P

(preparation of aliphatic nitrate esters for treatment of neurol. conditions)

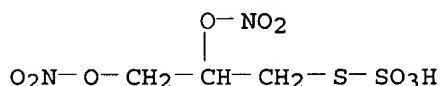
RN 179677-60-2 USPATFULL

CN 1,2-Propanediol, 3,3'-dithiobis-, tetranitrate (9CI) (CA INDEX NAME)



RN 179677-61-3 USPATFULL

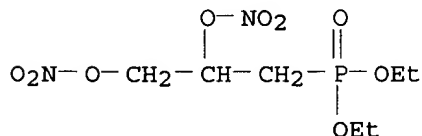
CN Thiosulfuric acid (H<sub>2</sub>S<sub>2</sub>O<sub>3</sub>), S-[2,3-bis(nitrooxy)propyl] ester, sodium salt (9CI) (CA INDEX NAME)



● Na

RN 200418-98-0 USPATFULL

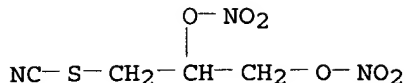
CN Phosphonic acid, [2,3-bis(nitrooxy)propyl]-, diethyl ester (9CI) (CA INDEX NAME)



RN 200419-00-7 USPATFULL

CN Thiocyanic acid, 2,3-bis(nitrooxy)propyl ester (9CI) (CA INDEX NAME)





L18 ANSWER 5 OF 5 USPATFULL on STN

AB Compounds and methods for mitigating neurodegeneration, effecting neuroprotection and/or effecting cognition enhancement in a subject are described. Neurological or cognitive conditions are treated by administering to a subject an effective amount of a therapeutic compound comprising a nitrate ester, or a pharmaceutically acceptable salt or ester thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

2002:27463 Nitrate esters and their use for neurological conditions.

Thatcher, Gregory R.J., Kingston, CANADA

Bennett, Brian M., Kingston, CANADA

Reynolds, James N., Kingston, CANADA

Boegman, Roland J., Kingston, CANADA

Jhamandas, Khem, Kingston, CANADA

US 2002016311 A1 20020207

APPLICATION: US 2001-851591 A1 20010510 (9)

DOCUMENT TYPE: Utility; APPLICATION.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

DRWD [0070] FIG. 19 is a graph showing a comparison of the percent change in mean arterial pressure in Inactin **anaesthetized** rats after intravenous bolus injection of GTN (squares) or Va (open circles). Data points represent the mean±standard errors (n=4).

DETD . . . Mongolian gerbils were subjected to 5 minutes of global forebrain ischemia by occlusion of the common carotid arteries under halothane **anesthesia**. This period of ischemia produces a selective neuronal cell death in the CA1 region of the hippocampus that develops over. . .

DETD . . . model tested was transient focal cerebral ischemia in the rat induced by occlusion of the middle cerebral artery. Under halothane **anesthesia**, a filament was advanced into the right internal carotid artery until the origin of the right middle cerebral artery was. . . The filament was secured, the animal allowed to regain consciousness, and two hours later the filament was removed under halothane **anesthesia**. Animals were given five subcutaneous doses of drug vehicle or 200 µmol/kg Va at 2, 3, 4, 6, and 8. . .

DETD . . . as compared to the contralateral striatum. Pretreatment of these animals with GTN (administered as a subcutaneous patch inserted under halothane **anesthesia** one hour prior to the NMDA infusion) at doses of 0.2 and 0.4 mg/hr produced a dose-dependent reduction in the. . .

IT 98019-81-9P 179677-60-2P 179677-61-3P 179677-62-4P  
179677-63-5P 200418-98-0P 200418-99-1P 200419-00-7P  
200419-01-8P

(preparation of aliphatic nitrate esters for treatment of neurol. conditions)

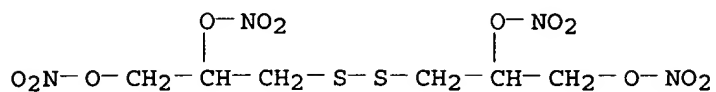
IT 179677-60-2P 179677-61-3P 200418-98-0P  
200419-00-7P

(preparation of aliphatic nitrate esters for treatment of neurol. conditions)

RN 179677-60-2 USPATFULL

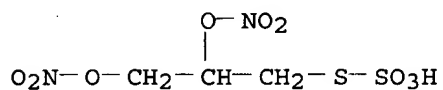
09/473,713

CN 1,2-Propanediol, 3,3'-dithiobis-, tetranitrate (9CI) (CA INDEX NAME)



RN 179677-61-3 USPATFULL

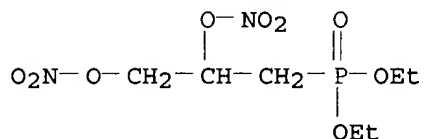
CN Thiosulfuric acid (H<sub>2</sub>S<sub>2</sub>O<sub>3</sub>), S-[2,3-bis(nitrooxy)propyl] ester, sodium salt (9CI) (CA INDEX NAME)



● Na

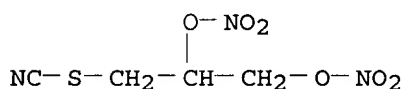
RN 200418-98-0 USPATFULL

CN Phosphonic acid, [2,3-bis(nitrooxy)propyl]-, diethyl ester (9CI) (CA INDEX NAME)



RN 200419-00-7 USPATFULL

CN Thiocyanic acid, 2,3-bis(nitrooxy)propyl ester (9CI) (CA INDEX NAME)



09/473,713

=> d his

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FILE 'REGISTRY' ENTERED AT 18:33:33 ON 30 APR 2006

L1 STRUCTURE UPLOADED

L2 1 S L1 SSS SAM

L3 8 S L1 SSS FULL

FILE 'HCAPLUS, USPATFULL, USPAT2' ENTERED AT 18:35:37 ON 30 APR 2006

=> s l3

L4 18 L3

=> dup rem l4

PROCESSING COMPLETED FOR L4

L5 12 DUP REM L4 (6 DUPLICATES REMOVED)

=> s l5 and (sedat? or anxiety or anxiolyt? or anesthes? or anaesth? or sleep? or somnol? or insomni?)

L6 5 L5 AND (SEDAT? OR ANXIETY OR ANXIOLYT? OR ANESTHES? OR ANAESTH?  
OR SLEEP? OR SOMNOL? OR INSOMNI?)

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L6 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

AB YXCR3R4(CR17R18)n(CR1R2)mONO2 [m, n = 0-10; R3, R4, R17 = H, nitrate, A; R1 = H, A; A = (substituted) (unsatd.) (cyclic) aliphatyl; R1R3, R4R17 = aliphatyl linkage; R2, R18 = H, A, XY; X = F, Cl, Br, Cl, NO2, CH2, CF2, O, NH, NMe, cyano, NHOH, N3, S, SCN, SO, SO2, etc.; Y = null, F, Cl, Br, Cl, Me, CF2H, CF3, OH, NH2, S, SCN, SH, etc.; with provisos], were prepared Thus, [O2NOCH2CH(ONO2)CH2S]2 (prepared via the corresponding Bunte salt) at 200 µmol/kg s.c. gave virtually complete protection against 6-OHDA killing of dopaminergic neurons in rats.

2005:547257 Document Number 143:77866 Preparation of nitrate esters having a β- or γ-sufur atom for protection of cells/tissues from oxidative damage.. Thatcher, Gregory R. j.; Bennett, Brian M.; Reynolds, James N.; Boegman, Roland J.; Jhamandas, Khem (USA). U.S. Pat. Appl. Publ. US 2005137191 A1 20050623, 83 pp., Cont.-in-part of U.S. Ser. Number 147,808. (English). CODEN: USXXCO. APPLICATION: US 2004-943264 20040917. PRIORITY: US 1996-658145 19960604; US 1997-867856 19970603; US 1999-267379 19990315; US 1999-473713 19991229; US 2002-2002/147808 20020520.

IT Aging, animal

Alcoholism

Alzheimer's disease

Anaphylaxis

Aneurysm

Anxiety

Asthma

Cachexia

Cataract

Cirrhosis

Cystic fibrosis

Dermatitis

Diabetes mellitus

Drug dependence

Eczema

Encephalomyelitis  
 Epilepsy  
 Eye, disease  
 Glaucoma (disease)  
 Hematopoietic neoplasm  
 Hepatitis  
 Hypoglycemia  
 Hypoxia  
 Ischemia  
 Lupus erythematosus  
 Meningitis  
 Multiple sclerosis  
 Mycosis  
 Obesity  
 Parkinson's disease  
 Psoriasis  
 Rheumatoid arthritis  
 Schizophrenia  
 Shock (circulatory collapse)  
 Ulcer  
 Urticaria

(treatment of damage; preparation of nitrate esters having a  $\beta$ - or  $\gamma$ -sulfur atom for protection of cells/tissues from oxidative damage)

IT 65051-92-5 179677-60-2 179677-62-4 179677-63-5 200418-99-1  
 200419-00-7 200419-01-8 294191-01-8 294191-03-0  
 294191-05-2 294191-06-3 294191-09-6  
 294191-10-9 349481-68-1 854926-51-5 854926-52-6 854926-53-7  
 854926-54-8 854926-55-9

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(preparation of nitrate esters having a  $\beta$ - or  $\gamma$ -sulfur atom for protection of cells/tissues from oxidative damage)

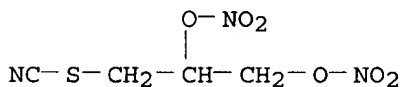
IT 200419-00-7 294191-05-2 294191-06-3  
 294191-09-6

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(preparation of nitrate esters having a  $\beta$ - or  $\gamma$ -sulfur atom for protection of cells/tissues from oxidative damage)

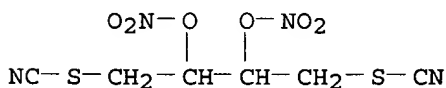
RN 200419-00-7 HCAPLUS

CN Thiocyanic acid, 2,3-bis(nitrooxy)propyl ester (9CI) (CA INDEX NAME)



RN 294191-05-2 HCAPLUS

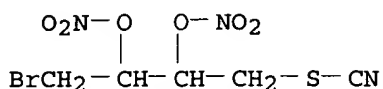
CN Thiocyanic acid, 2,3-bis(nitrooxy)-1,4-butanediyl ester (9CI) (CA INDEX NAME)



RN 294191-06-3 HCAPLUS

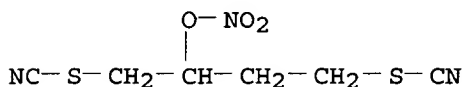
09/473,713

CN Thiocyanic acid, 4-bromo-2,3-bis(nitrooxy)butyl ester (9CI) (CA INDEX NAME)



RN 294191-09-6 HCAPLUS

CN Thiocyanic acid, 2-(nitrooxy)-1,4-butanediyl ester (9CI) (CA INDEX NAME)



L6 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

AB Methods and therapeutic compds. for treating pain, mitigating inflammation, effecting analgesia and/or effecting sedation in a subject are described. A subject is administered an effective amount of a therapeutic compound, e.g. 4-methylthiazole-5-Et nitrate (I), which is a nitrate ester. I shows a mean of 54.21 s at 10 mg/kg in scopolamine-impaired learning assay. Novel pharmaceutical compns. are also described.

2001:507519 Document Number 135:92207 Synthesis, methods and compositions of organic nitrates for mitigating pain. Thatcher, Gregory R. J.; Bennett, Brian M.; Reynolds, James N.; Jhamandas, Khem (Queen's University at Kingston, Can.). PCT Int. Appl. WO 2001049275 A2 20010712, 114 pp.

DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2000-CA1523 20001227. PRIORITY: US 1999-473713 19991229.

AB Methods and therapeutic compds. for treating pain, mitigating inflammation, effecting analgesia and/or effecting sedation in a subject are described. A subject is administered an effective amount of a therapeutic compound, e.g. 4-methylthiazole-5-Et nitrate (I), which. . .

ST org nitrate prepn analgesic sedative; pain treatment  
inflammation mitigation org nitrate

IT Analgesics

Hypnotics and Sedatives

Pain

(synthesis, methods and compns. of organic nitrates for mitigating pain)

IT 55-63-0P 2612-33-1P 17115-36-5P 65051-92-5P 98019-81-9P  
109967-12-6P 179677-60-2P 220046-01-5P 220046-02-6P 252568-49-3P  
294191-00-7P 294191-03-0P 294191-05-2P 294191-06-3P  
294191-07-4P 294191-08-5P 294191-09-6P 294191-10-9P  
294191-11-0P 294191-12-1P 294191-15-4P 349472-60-2P 349472-61-3P  
349472-62-4P 349472-63-5P 349472-64-6P 349472-65-7P 349472-67-9P  
349472-68-0P 349472-69-1P 349472-79-3P 349481-52-3P 349481-53-4P  
349481-54-5P 349481-55-6P 349481-56-7P 349481-57-8P 349481-58-9P  
349481-59-0P 349481-60-3P 349481-61-4P 349481-62-5P 349481-63-6P

09/473,713

349481-64-7P 349481-65-8P 349481-66-9P 349481-67-0P 349481-68-1P  
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349487-19-0P 349487-20-3P 349487-21-4P 349487-22-5P 349487-23-6P  
349487-24-7P 349487-25-8P 349487-26-9P 349487-27-0P  
349487-28-1P 349487-29-2P 349487-30-5P 349487-31-6P  
349487-32-7P 349487-33-8P 349487-34-9P 349487-35-0P 349487-36-1P  
349487-37-2P 349487-38-3P 349487-39-4P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(synthesis, methods and compns. of organic nitrates for mitigating pain)

IT 106-45-6P, 4-Methylbenzenethiol 4704-77-2P, 1-Bromo-2,3-propanediol  
33835-83-5P 90490-21-4P 179677-61-3P 200419-00-7P  
299964-29-7P 349472-72-6P 349472-73-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(synthesis, methods and compns. of organic nitrates for mitigating pain)

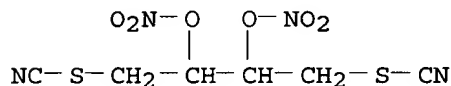
IT 294191-05-2P 294191-06-3P 294191-09-6P  
349487-25-8P 349487-30-5P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(synthesis, methods and compns. of organic nitrates for mitigating pain)

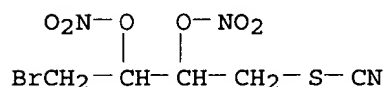
RN 294191-05-2 HCAPLUS

CN Thiocyanic acid, 2,3-bis(nitrooxy)-1,4-butanediyl ester (9CI) (CA INDEX NAME)



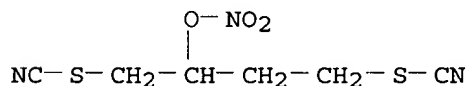
RN 294191-06-3 HCAPLUS

CN Thiocyanic acid, 4-bromo-2,3-bis(nitrooxy)butyl ester (9CI) (CA INDEX NAME)



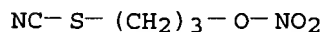
RN 294191-09-6 HCAPLUS

CN Thiocyanic acid, 2-(nitrooxy)-1,4-butanediyl ester (9CI) (CA INDEX NAME)



RN 349487-25-8 HCAPLUS

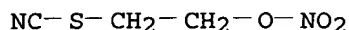
CN Thiocyanic acid, 3-(nitrooxy)propyl ester (9CI) (CA INDEX NAME)



09/473,713

RN 349487-30-5 HCAPLUS

CN Thiocyanic acid, 2-(nitrooxy)ethyl ester (9CI) (CA INDEX NAME)



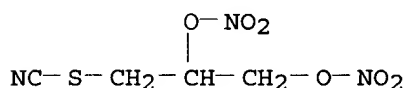
IT 200419-00-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(synthesis, methods and compns. of organic nitrates for mitigating pain)

RN 200419-00-7 HCAPLUS

CN Thiocyanic acid, 2,3-bis(nitrooxy)propyl ester (9CI) (CA INDEX NAME)



L6 ANSWER 3 OF 5 USPATFULL on STN

AB Compounds and methods for mitigating neurodegeneration, effecting neuroprotection and/or effecting cognition enhancement in a subject are described. Neurological or cognitive conditions are treated by administering to a subject an effective amount of a therapeutic compound comprising a nitrate ester, or a pharmaceutically acceptable salt or ester thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

2002:315135 Nitrate esters and their use for neurological conditions.

Thatcher, Gregory R.J., Kingston, CANADA

Bennett, Brian M., Kingston, CANADA

Reynolds, James N., Kingston, CANADA

Boegman, Roland J., Kingston, CANADA

Jhamandas, Khem, Kingston, CANADA

US 2002177622 A1 20021128

APPLICATION: US 2002-147808 A1 20020520 (10)

DOCUMENT TYPE: Utility; APPLICATION.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

DRWD [0070] FIG. 19 is a graph showing a comparison of the percent change in mean arterial pressure in Inactin **anaesthetized** rats after intravenous bolus injection of GTN (squares) or Va (open circles). Data points represent the mean±standard errors (n=4).

DETD . . . Mongolian gerbils were subjected to 5 minutes of global forebrain ischemia by occlusion of the common carotid arteries under halothane **anesthesia**. This period of ischemia produces a selective neuronal cell death in the CA1 region of the hippocampus that develops over. . .

DETD . . . model tested was transient focal cerebral ischemia in the rat induced by occlusion of the middle cerebral artery. Under halothane **anesthesia**, a filament was advanced into the right internal carotid artery until the origin of the right middle cerebral artery was. . . The filament was secured, the animal allowed to regain consciousness, and two hours later the filament was removed under halothane **anesthesia**. Animals were given five subcutaneous doses of drug vehicle or 200 µmol/kg Va at 2, 3, 4, 6, and 8. . .

DETD . . . as compared to the contralateral striatum. Pretreatment of these animals with GTN (administered as a subcutaneous patch inserted

under halothane **anesthesia** one hour prior to the NMDA infusion) at doses of 0.2 and 0.4 mg/hr produced a dose-dependent reduction in the. . .

IT 98019-81-9P 179677-60-2P 179677-61-3P 179677-62-4P 179677-63-5P  
200418-98-0P 200418-99-1P **200419-00-7P** 200419-01-8P

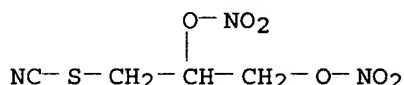
(preparation of aliphatic nitrate esters for treatment of neurol. conditions)

IT **200419-00-7P**

(preparation of aliphatic nitrate esters for treatment of neurol. conditions)

RN 200419-00-7 USPATFULL

CN Thiocyanic acid, 2,3-bis(nitrooxy)propyl ester (9CI) (CA INDEX NAME)



L6 ANSWER 4 OF 5 USPATFULL on STN

AB Compounds and methods for mitigating neurodegeneration, effecting neuroprotection and/or effecting cognition enhancement in a subject are described. Neurological or cognitive conditions are treated by administering to a subject an effective amount of a therapeutic compound comprising a nitrate ester, or a pharmaceutically acceptable salt or ester thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

2002:266352 Nitrate esters and methods of making same.

Thatcher, Gregory R.J., Kingston, CANADA

Bennett, Brian M., Kingston, CANADA

Reynolds, James N., Kingston, CANADA

Boegman, Roland J., Kingston, CANADA

Jhamandas, Khem, Kingston, CANADA

US 2002147234 A1 20021010

APPLICATION: US 2002-108513 A1 20020329 (10)

DOCUMENT TYPE: Utility; APPLICATION.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

DRWD [0070] FIG. 19 is a graph showing a comparison of the percent change in mean arterial pressure in Inactin **anaesthetized** rats after intravenous bolus injection of GTN (squares) or Va (open circles). Data points represent the mean±standard errors (n=4).

DETD . . . Mongolian gerbils were subjected to 5 minutes of global forebrain ischemia by occlusion of the common carotid arteries under halothane **anesthesia**. This period of ischemia produces a selective neuronal cell death in the CA 1 region of the hippocampus that develops. . .

DETD . . . model tested was transient focal cerebral ischemia in the rat induced by occlusion of the middle cerebral artery. Under halothane **anesthesia**, a filament was advanced into the right internal carotid artery until the origin of the right middle cerebral artery was. . . The filament was secured, the animal allowed to regain consciousness, and two hours later the filament was removed under halothane **anesthesia**. Animals were given five subcutaneous doses of drug vehicle or 200 µmol/kg Va at 2, 3, 4, 6, and 8. . .

DETD . . . compared to the contralateral striatum. d Pretreatment of these animals with GTN (administered as a subcutaneous patch inserted under halothane **anesthesia** one hour prior to the NMDA infusion) at



doses of 0.2 and 0.4 mg/hr produced a dose-dependent reduction in the.

IT 98019-81-9P 179677-60-2P 179677-61-3P 179677-62-4P 179677-63-5P  
200418-98-0P 200418-99-1P 200419-00-7P 200419-01-8P

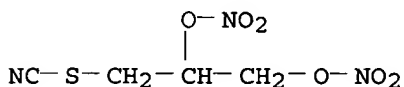
(preparation of aliphatic nitrate esters for treatment of neurol. conditions)

IT 200419-00-7P

(preparation of aliphatic nitrate esters for treatment of neurol. conditions)

RN 200419-00-7 USPATFULL

CN Thiocyanic acid, 2,3-bis(nitrooxy)propyl ester (9CI) (CA INDEX NAME)



L6 ANSWER 5 OF 5 USPATFULL on STN

AB Compounds and methods for mitigating neurodegeneration, effecting neuroprotection and/or effecting cognition enhancement in a subject are described. Neurological or cognitive conditions are treated by administering to a subject an effective amount of a therapeutic compound comprising a nitrate ester, or a pharmaceutically acceptable salt or ester thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

2002:27463 Nitrate esters and their use for neurological conditions.

Thatcher, Gregory R.J., Kingston, CANADA

Bennett, Brian M., Kingston, CANADA

Reynolds, James N., Kingston, CANADA

Boegman, Roland J., Kingston, CANADA

Jhamandas, Khem, Kingston, CANADA

US 2002016311 A1 20020207

APPLICATION: US 2001-851591 A1 20010510 (9)

DOCUMENT TYPE: Utility; APPLICATION.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

DRWD [0070] FIG. 19 is a graph showing a comparison of the percent change in mean arterial pressure in Inactin **anaesthetized** rats after intravenous bolus injection of GTN (squares) or Va (open circles). Data points represent the mean±standard errors (n=4).

DETD . . . Mongolian gerbils were subjected to 5 minutes of global forebrain ischemia by occlusion of the common carotid arteries under halothane **anesthesia**. This period of ischemia produces a selective neuronal cell death in the CA1 region of the hippocampus that develops over. . .

DETD . . . model tested was transient focal cerebral ischemia in the rat induced by occlusion of the middle cerebral artery. Under halothane **anesthesia**, a filament was advanced into the right internal carotid artery until the origin of the right middle cerebral artery was. . . The filament was secured, the animal allowed to regain consciousness, and two hours later the filament was removed under halothane **anesthesia**. Animals were given five subcutaneous doses of drug vehicle or 200 µmol/kg Va at 2, 3, 4, 6, and 8. . .

DETD . . . as compared to the contralateral striatum. Pretreatment of these animals with GTN (administered as a subcutaneous patch inserted under halothane **anesthesia** one hour prior to the NMDA infusion) at doses of 0.2 and 0.4 mg/hr produced a dose-dependent

09/473,713

reduction in the. . .

IT 98019-81-9P 179677-60-2P 179677-61-3P 179677-62-4P 179677-63-5P  
200418-98-0P 200418-99-1P 200419-00-7P 200419-01-8P

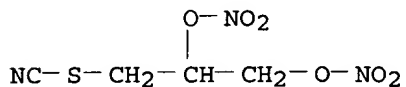
(preparation of aliphatic nitrate esters for treatment of neurol.  
conditions)

IT 200419-00-7P

(preparation of aliphatic nitrate esters for treatment of neurol.  
conditions)

RN 200419-00-7 USPATFULL

CN Thiocyanic acid, 2,3-bis(nitrooxy)propyl ester (9CI) (CA INDEX NAME)



09/473,713

FILE 'HCAPLUS' ENTERED AT 18:40:23 ON 30 APR 2006  
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PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
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FILE 'USPATFULL' ENTERED AT 18:40:23 ON 30 APR 2006  
CA INDEXING COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 18:40:23 ON 30 APR 2006  
CA INDEXING COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

=> d his

(FILE 'HOME' ENTERED AT 18:32:36 ON 30 APR 2006)

FILE 'REGISTRY' ENTERED AT 18:33:33 ON 30 APR 2006

L1 STRUCTURE UPLOADED  
L2 1 S L1 SSS SAM  
L3 8 S L1 SSS FULL

FILE 'HCAPLUS, USPATFULL, USPAT2' ENTERED AT 18:35:37 ON 30 APR 2006

L4 18 S L3  
L5 12 DUP REM L4 (6 DUPLICATES REMOVED)  
L6 5 S L5 AND (SEDAT? OR ANXIETY OR ANXIOLYT? OR ANESTHES? OR ANAEST

FILE 'STNGUIDE' ENTERED AT 18:37:12 ON 30 APR 2006

FILE 'REGISTRY' ENTERED AT 18:38:53 ON 30 APR 2006

L7 STRUCTURE UPLOADED  
L8 0 S L7 SSS SAM  
L9 1 S L7 SSS FULL

FILE 'HCAPLUS, USPATFULL, USPAT2' ENTERED AT 18:40:23 ON 30 APR 2006

=> s 19

L10 2 L9

=> dup rem l10

PROCESSING COMPLETED FOR L10

L11 1 DUP REM L10 (1 DUPLICATE REMOVED)

=> d l11 abs cbib kwic hitstr 1

L11 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 1

AB YXCR3R4(CR17R18)n(CR1R2)mONO2 [m, n = 0-10; R3, R4, R17 = H, nitrate, A; R1 = H, A; A = (substituted) (unsatd.) (cyclic) aliphaty; R1R3, R4R17 = aliphaty linkage; R2, R18 = H, A, XY; X = F, Cl, Br, Cl, NO2, CH2, CF2, O, NH, NMe, cyano, NHOH, N3, S, SCN, SO, SO2, etc.; Y = null, F, Cl, Br, Cl, Me, CF2H, CF3, OH, NH2, S, SCN, SH, etc.; with provisos], were prepared Thus, [O2NOCH2CH(ONO2)CH2S]2 (prepared via the corresponding Bunte salt) at 200 µmol/kg s.c. gave virtually complete protection against 6-OHDA killing of dopaminergic neurons in rats.

2005:547257 Document Number 143:77866 Preparation of nitrate esters having a β- or γ-sufur atom for protection of cells/tissues from oxidative damage.. Thatcher, Gregory R. j.; Bennett, Brian M.; Reynolds, James N.; Boegman, Roland J.; Jhamandas, Khem (USA). U.S. Pat. Appl. Publ. US 2005137191 A1 20050623, 83 pp., Cont.-in-part of U.S. Ser. Number 147,808. (English). CODEN: USXXCO. APPLICATION: US 2004-943264

20040917. PRIORITY: US 1996-658145 19960604; US 1997-867856 19970603; US 1999-267379 19990315; US 1999-473713 19991229; US 2002-2002/147808 20020520.

IT	349472-60-2P	349472-61-3P	349472-62-4P	349472-64-6P	349472-65-7P
	349472-66-8P	349472-67-9P	349472-72-6P	349481-56-7P	349481-57-8P
	349481-58-9P	349481-60-3P	349481-63-6P	349481-65-8P	349481-66-9P
	349481-70-5P	349482-21-9P	349487-17-8P	349487-23-6P	349487-26-9P
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	854926-58-2P	854926-59-3P	854926-60-6P		

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(claimed compound; preparation of nitrate esters having a  $\beta$ - or  $\gamma$ -sulfur atom for protection of cells/tissues from oxidative damage)

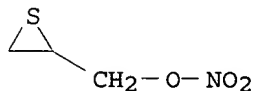
IT **854925-70-5P**

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(claimed compound; preparation of nitrate esters having a  $\beta$ - or  $\gamma$ -sulfur atom for protection of cells/tissues from oxidative damage)

RN 854925-70-5 HCAPLUS

CN Thiiranemethanol, nitrate (9CI) (CA INDEX NAME)



09/473,713

FILE 'HCAPLUS' ENTERED AT 17:31:55 ON 30 APR 2006  
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FILE 'USPATFULL' ENTERED AT 17:31:55 ON 30 APR 2006  
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FILE 'USPAT2' ENTERED AT 17:31:55 ON 30 APR 2006  
CA INDEXING COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

=> s l9

L10 21 L9

=> dup rem l10

PROCESSING COMPLETED FOR L10

L11 15 DUP REM L10 (6 DUPLICATES REMOVED)

=> s l11 and (sedat? or anxiety or anxiolyt? or anesthes? or anaesth? or sleep? or  
sommol? or insomni?)

L12 5 L11 AND (SEDAT? OR ANXIETY OR ANXIOLYT? OR ANESTHES? OR ANAESTH?  
OR SLEEP? OR SOMNOL? OR INSOMNI?)

=> d l12 abs cbib kwic hitstr 1-5

L12 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

AB YXCR3R4(CR17R18)n(CR1R2)mONO2 [m, n = 0-10; R3, R4, R17 = H, nitrate, A;  
R1 = H, A; A = (substituted) (unsatd.) (cyclic) aliphatyl; R1R3, R4R17 =  
aliphatyl linkage; R2, R18 = H, A, XY; X = F, Cl, Br, Cl, NO2, CH2, CF2,  
O, NH, NMe, cyano, NHOH, N3, S, SCN, SO, SO2, etc.; Y = null, F, Cl, Br,  
Cl, Me, CF2H, CF3, OH, NH2, S, SCN, SH, etc.; with provisos], were prepared  
Thus, [O2NOCH2CH(ONO2)CH2S]2 (prepared via the corresponding Bunte salt) at  
200 µmol/kg s.c. gave virtually complete protection against 6-OHDA  
killing of dopaminergic neurons in rats.

2005:547257 Document Number 143:77866 Preparation of nitrate esters having a  
β- or γ-sufur atom for protection of cells/tissues from  
oxidative damage.. Thatcher, Gregory R. j.; Bennett, Brian M.; Reynolds,  
James N.; Boegman, Roland J.; Jhamandas, Khem (USA). U.S. Pat. Appl.  
Publ. US 2005137191 A1 20050623, 83 pp., Cont.-in-part of U.S. Ser. Number  
147,808. (English). CODEN: USXXCO. APPLICATION: US 2004-943264  
20040917. PRIORITY: US 1996-658145 19960604; US 1997-867856 19970603; US  
1999-267379 19990315; US 1999-473713 19991229; US 2002-2002/147808  
20020520.

IT Aging, animal  
Alcoholism  
Alzheimer's disease  
Anaphylaxis  
Aneurysm  
Anxiety  
Asthma  
Cachexia  
Cataract  
Cirrhosis  
Cystic fibrosis  
Dermatitis  
Diabetes mellitus  
Drug dependence  
Eczema

Encephalomyelitis  
 Epilepsy  
 Eye, disease  
 Glaucoma (disease)  
 Hematopoietic neoplasm  
 Hepatitis  
 Hypoglycemia  
 Hypoxia  
 Ischemia  
 Lupus erythematosus  
 Meningitis  
 Multiple sclerosis  
 Mycosis  
 Obesity  
 Parkinson's disease  
 Psoriasis  
 Rheumatoid arthritis  
 Schizophrenia  
 Shock (circulatory collapse)  
 Ulcer  
 Urticaria

(treatment of damage; preparation of nitrate esters having a  $\beta$ - or  
 $\gamma$ -sulfur atom for protection of cells/tissues from oxidative  
 damage)

IT	349472-60-2P	349472-61-3P	349472-62-4P	349472-64-6P	
	349472-65-7P	349472-66-8P	349472-67-9P	349472-72-6P	
	349481-56-7P	349481-57-8P	349481-58-9P	349481-60-3P	
	349481-63-6P	349481-65-8P	349481-66-9P	349481-70-5P	
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	349487-29-2P	349487-32-7P	349487-34-9P	854925-36-3P	
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	854925-44-3P	854925-45-4P	854925-46-5P	854925-47-6P	854925-48-7P
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	854926-50-4P	854926-58-2P	854926-59-3P		
	854926-60-6P				

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU  
 (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES  
 (Uses)

(claimed compound; preparation of nitrate esters having a  $\beta$ - or  $\gamma$ -sulfur atom for protection of cells/tissues from oxidative damage)

IT 65051-92-5 179677-60-2 179677-62-4 179677-63-5 200418-99-1  
200419-00-7 200419-01-8 294191-01-8 294191-03-0 294191-05-2  
294191-06-3 294191-09-6 294191-10-9 349481-68-1 854926-51-5  
854926-52-6 854926-53-7 854926-54-8 854926-55-9

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(preparation of nitrate esters having a  $\beta$ - or  $\gamma$ -sulfur atom for protection of cells/tissues from oxidative damage)

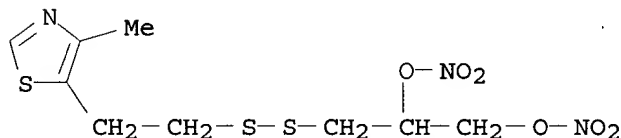
IT 349472-60-2P 349481-56-7P 349481-57-8P  
349481-65-8P 854925-36-3P 854925-37-4P  
854925-38-5P 854925-39-6P 854925-40-9P  
854925-73-8P 854925-74-9P 854925-75-0P  
854925-76-1P 854926-58-2P 854926-59-3P  
854926-60-6P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(claimed compound; preparation of nitrate esters having a  $\beta$ - or  $\gamma$ -sulfur atom for protection of cells/tissues from oxidative damage)

RN 349472-60-2 HCAPLUS

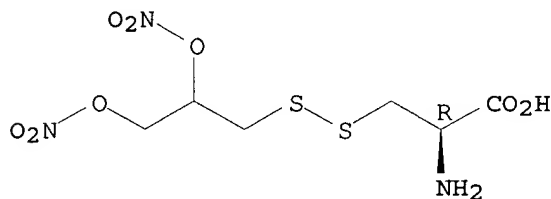
CN 1,2-Propanediol, 3-[[2-(4-methyl-5-thiazolyl)ethyl]dithio]-, dinitrate (ester) (9CI) (CA INDEX NAME)



RN 349481-56-7 HCAPLUS

CN L-Alanine, 3-[[2,3-bis(nitrooxy)propyl]dithio]- (9CI) (CA INDEX NAME)

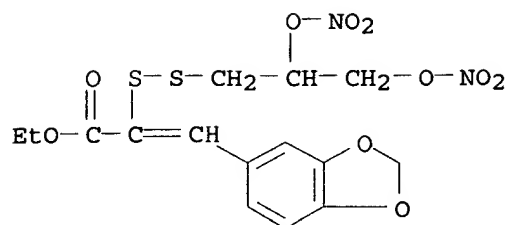
Absolute stereochemistry.



RN 349481-57-8 HCAPLUS

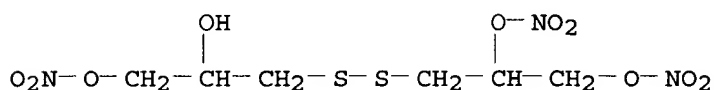
CN 2-Propenoic acid, 3-(1,3-benzodioxol-5-yl)-2-[[2,3-bis(nitrooxy)propyl]dithio]-, ethyl ester (9CI) (CA INDEX NAME)

09/473,713



RN 349481-65-8 HCAPLUS

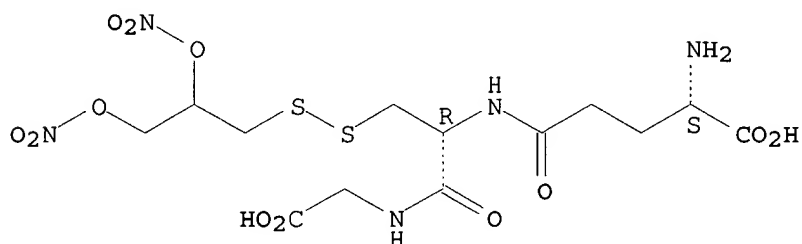
CN 1,2-Propanediol, 3-[[2,3-bis(nitrooxy)propyl]dithio]-, 1-nitrate (9CI)  
(CA INDEX NAME)



RN 854925-36-3 HCAPLUS

CN Glycine, L-gamma-glutamyl-3-[[2,3-bis(nitrooxy)propyl]dithio]-L-alanyl-  
(9CI) (CA INDEX NAME)

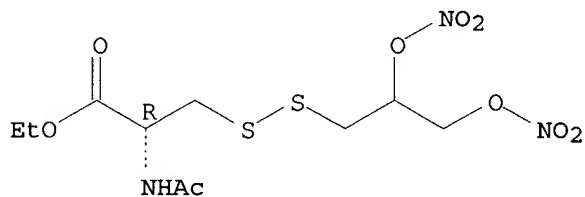
Absolute stereochemistry.



RN 854925-37-4 HCAPLUS

CN L-Alanine, N-acetyl-3-[[2,3-bis(nitrooxy)propyl]dithio]-, ethyl ester  
(9CI) (CA INDEX NAME)

Absolute stereochemistry.

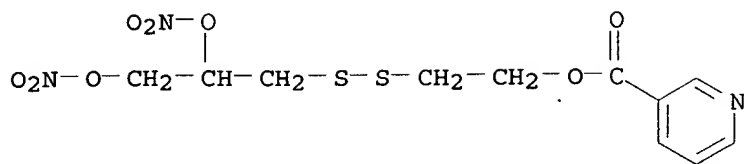


RN 854925-38-5 HCAPLUS

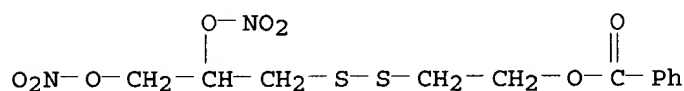
CN 3-Pyridinecarboxylic acid, 2-[[2,3-bis(nitrooxy)propyl]dithio]ethyl ester  
(9CI) (CA INDEX NAME)



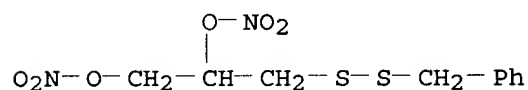
09/473,713



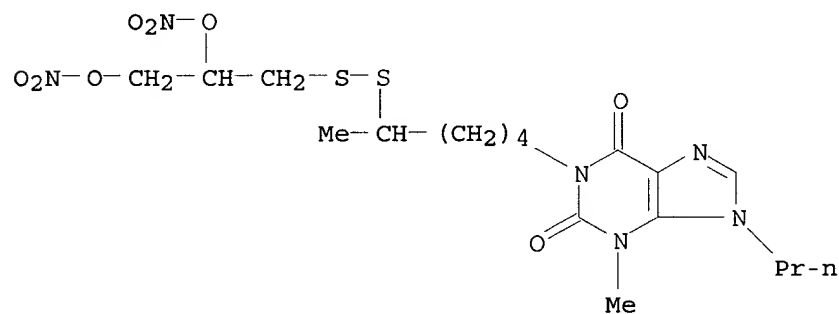
RN 854925-39-6 HCAPLUS  
CN 1,2-Propanediol, 3-[[2-(benzoyloxy)ethyl]dithio]-, dinitrate (9CI) (CA INDEX NAME)



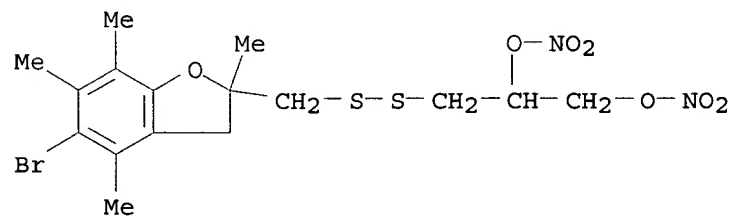
RN 854925-40-9 HCAPLUS  
CN 1,2-Propanediol, 3-[(phenylmethyl)dithio]-, dinitrate (9CI) (CA INDEX NAME)



RN 854925-73-8 HCAPLUS  
CN 1H-Purine-2,6-dione, 1-[5-[[2,3-bis(nitrooxy)propyl]dithio]hexyl]-3,9-dihydro-3-methyl-9-propyl- (9CI) (CA INDEX NAME)



RN 854925-74-9 HCAPLUS  
CN 1,2-Propanediol, 3-[[[(5-bromo-2,3-dihydro-2,4,6,7-tetramethyl-2-benzofuranyl)methyl]dithio]-, dinitrate (9CI) (CA INDEX NAME)

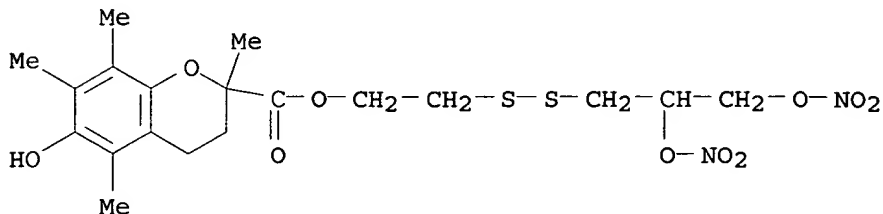


Delacroix<C>

09/473,713

RN 854925-75-0 HCAPLUS

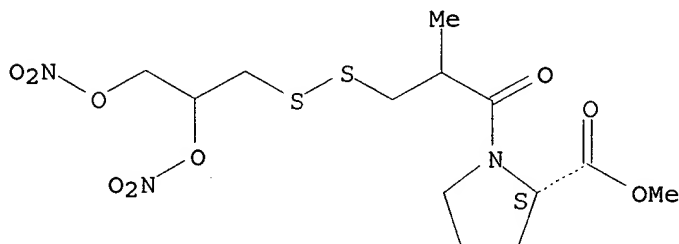
CN 2H-1-Benzopyran-2-carboxylic acid, 3,4-dihydro-6-hydroxy-2,5,7,8-tetramethyl-, 2-[[2,3-bis(nitrooxy)propyl]dithio]ethyl ester (9CI) (CA INDEX NAME)



RN 854925-76-1 HCAPLUS

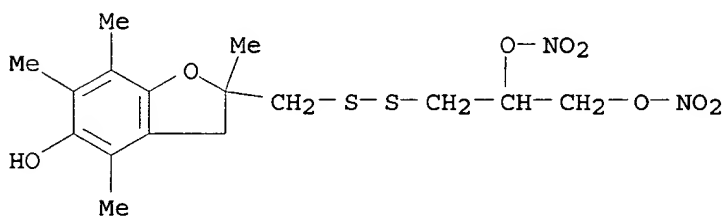
CN L-Proline, 1-[3-[[2,3-bis(nitrooxy)propyl]dithio]-2-methyl-1-oxopropyl]-, methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 854926-58-2 HCAPLUS

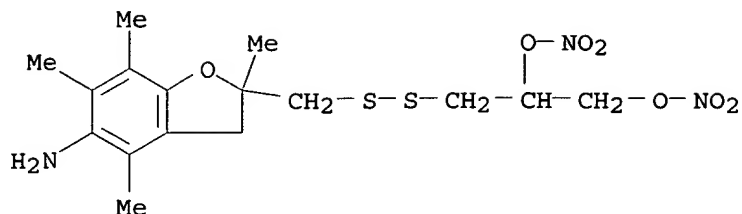
CN 1,2-Propanediol, 3-[[[(2,3-dihydro-5-hydroxy-2,4,6,7-tetramethyl-2-benzofuranyl)methyl]dithio]-, 1,2-dinitrate (9CI) (CA INDEX NAME)



RN 854926-59-3 HCAPLUS

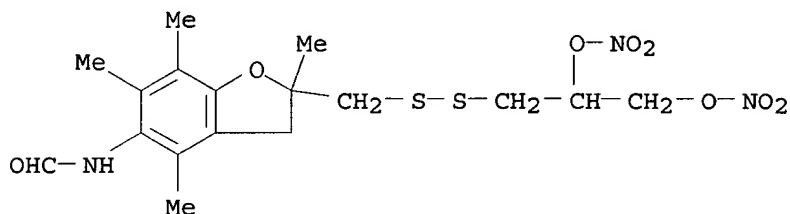
CN 1,2-Propanediol, 3-[[[(5-amino-2,3-dihydro-2,4,6,7-tetramethyl-2-benzofuranyl)methyl]dithio]-, dinitrate (ester) (9CI) (CA INDEX NAME)

09/473,713



RN 854926-60-6 HCAPLUS

CN Formamide, N-[2-[[[2,3-bis(nitrooxy)propyl]dithio]methyl]-2,3-dihydro-2,4,6,7-tetramethyl-5-benzofuranyl]- (9CI) (CA INDEX NAME)

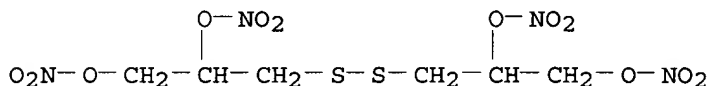


IT 179677-60-2 854926-51-5

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(preparation of nitrate esters having a  $\beta$ - or  $\gamma$ -sulfur atom for protection of cells/tissues from oxidative damage)

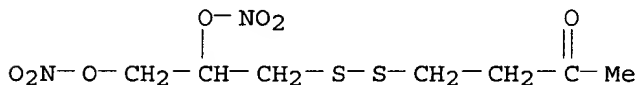
RN 179677-60-2 HCAPLUS

CN 1,2-Propanediol, 3,3'-dithiobis-, tetranitrate (9CI) (CA INDEX NAME)



RN 854926-51-5 HCAPLUS

CN 2-Butanone, 4-[[[2,3-bis(nitrooxy)propyl]dithio]- (9CI) (CA INDEX NAME)



L12 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

AB Methods and therapeutic compds. for treating pain, mitigating inflammation, effecting analgesia and/or effecting **sedation** in a subject are described. A subject is administered an effective amount of a therapeutic compound, e.g. 4-methylthiazole-5-Et nitrate (I), which is a nitrate ester. I shows a mean of 54.21 s at 10 mg/kg in scopolamine-impaired learning assay. Novel pharmaceutical compns. are also described.

2001:507519 Document Number 135:92207 Synthesis, methods and compositions of organic nitrates for mitigating pain. Thatcher, Gregory R. J.; Bennett,

Brian M.; Reynolds, James N.; Jhamandas, Khem (Queen's University at Kingston, Can.). PCT Int. Appl. WO 2001049275 A2 20010712, 114 pp.  
 DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, VZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2000-CA1523 20001227. PRIORITY: US 1999-473713 19991229.

AB Methods and therapeutic compds. for treating pain, mitigating inflammation, effecting analgesia and/or effecting sedation in a subject are described. A subject is administered an effective amount of a therapeutic compound, e.g. 4-methylthiazole-5-Et nitrate (I), which. . .

ST org nitrate prepn analgesic **sedative**; pain treatment  
 inflammation mitigation org nitrate

IT Analgesics

Hypnotics and Sedatives

Pain

(synthesis, methods and compns. of organic nitrates for mitigating pain)

IT 55-63-0P 2612-33-1P 17115-36-5P 65051-92-5P 98019-81-9P  
 109967-12-6P 179677-60-2P 220046-01-5P 220046-02-6P  
 252568-49-3P 294191-00-7P 294191-03-0P 294191-05-2P 294191-06-3P  
 294191-07-4P 294191-08-5P 294191-09-6P 294191-10-9P 294191-11-0P  
 294191-12-1P 294191-15-4P 349472-60-2P 349472-61-3P  
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 349487-39-4P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(synthesis, methods and compns. of organic nitrates for mitigating pain)

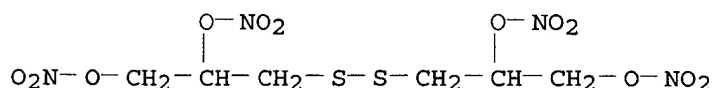
IT 179677-60-2P 349472-60-2P 349472-63-5P  
 349481-56-7P 349481-57-8P 349481-65-8P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(synthesis, methods and compns. of organic nitrates for mitigating pain)

RN 179677-60-2 HCAPLUS

CN 1,2-Propanediol, 3,3'-dithiobis-, tetranitrate (9CI) (CA INDEX NAME)

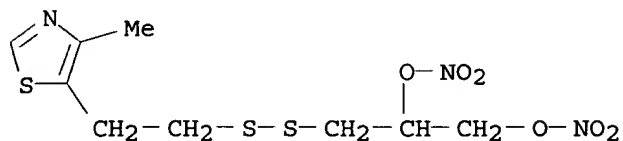


RN 349472-60-2 HCAPLUS

CN 1,2-Propanediol, 3-[[2-(4-methyl-5-thiazolyl)ethyl]dithio]-, dinitrate

09/473,713

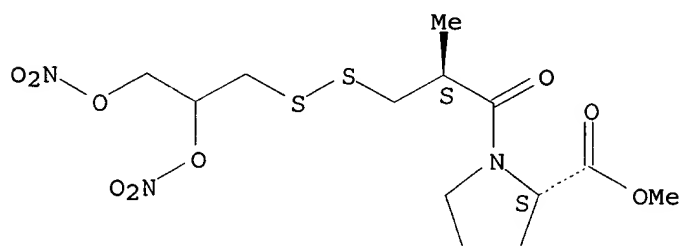
(ester) (9CI) (CA INDEX NAME)



RN 349472-63-5 HCAPLUS

CN L-Proline, 1-[(2S)-3-[[2,3-bis(nitrooxy)propyl]dithio]-2-methyl-1-oxopropyl]-, methyl ester (9CI) (CA INDEX NAME)

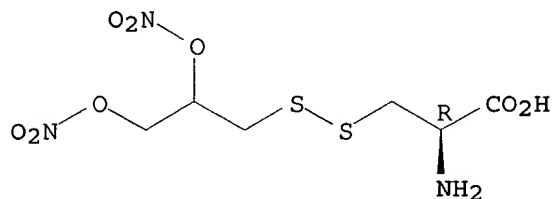
Absolute stereochemistry.



RN 349481-56-7 HCAPLUS

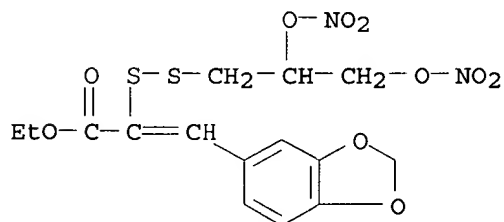
CN L-Alanine, 3-[[2,3-bis(nitrooxy)propyl]dithio]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 349481-57-8 HCAPLUS

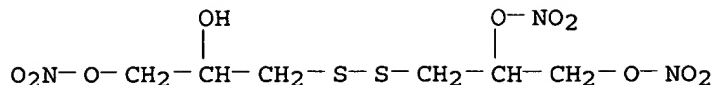
CN 2-Propenoic acid, 3-(1,3-benzodioxol-5-yl)-2-[[2,3-bis(nitrooxy)propyl]dithio]-, ethyl ester (9CI) (CA INDEX NAME)



RN 349481-65-8 HCAPLUS

CN 1,2-Propanediol, 3-[[2,3-bis(nitrooxy)propyl]dithio]-, 1-nitrate (9CI) (CA INDEX NAME)

Delacroix<C>



L12 ANSWER 3 OF 5 USPATFULL on STN

AB Compounds and methods for mitigating neurodegeneration, effecting neuroprotection and/or effecting cognition enhancement in a subject are described. Neurological or cognitive conditions are treated by administering to a subject an effective amount of a therapeutic compound comprising a nitrate ester, or a pharmaceutically acceptable salt or ester thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

2002:315135 Nitrate esters and their use for neurological conditions.

Thatcher, Gregory R.J., Kingston, CANADA

Bennett, Brian M., Kingston, CANADA

Reynolds, James N., Kingston, CANADA

Boegman, Roland J., Kingston, CANADA

Jhamandas, Khem, Kingston, CANADA

US 2002177622 A1 20021128

APPLICATION: US 2002-147808 A1 20020520 (10)

DOCUMENT TYPE: Utility; APPLICATION.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

DRWD [0070] FIG. 19 is a graph showing a comparison of the percent change in mean arterial pressure in Inactin **anaesthetized** rats after intravenous bolus injection of GTN (squares) or Va (open circles). Data points represent the mean±standard errors (n=4).

DETD . . . Mongolian gerbils were subjected to 5 minutes of global forebrain ischemia by occlusion of the common carotid arteries under halothane **anesthesia**. This period of ischemia produces a selective neuronal cell death in the CA1 region of the hippocampus that develops over. . .

DETD . . . model tested was transient focal cerebral ischemia in the rat induced by occlusion of the middle cerebral artery. Under halothane **anesthesia**, a filament was advanced into the right internal carotid artery until the origin of the right middle cerebral artery was. . . The filament was secured, the animal allowed to regain consciousness, and two hours later the filament was removed under halothane **anesthesia**. Animals were given five subcutaneous doses of drug vehicle or 200 µmol/kg Va at 2, 3, 4, 6, and 8. . .

DETD . . . as compared to the contralateral striatum. Pretreatment of these animals with GTN (administered as a subcutaneous patch inserted under halothane **anesthesia** one hour prior to the NMDA infusion) at doses of 0.2 and 0.4 mg/hr produced a dose-dependent reduction in the. . .

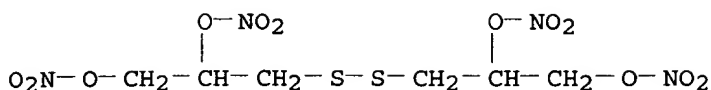
IT 98019-81-9P 179677-60-2P 179677-61-3P 179677-62-4P  
179677-63-5P 200418-98-0P 200418-99-1P 200419-00-7P 200419-01-8P  
(preparation of aliphatic nitrate esters for treatment of neurol. conditions)

IT 179677-60-2P

(preparation of aliphatic nitrate esters for treatment of neurol. conditions)

RN 179677-60-2 USPATFULL

CN 1,2-Propanediol, 3,3'-dithiobis-, tetranitrate (9CI) (CA INDEX NAME)



L12 ANSWER 4 OF 5 USPATFULL on STN

AB Compounds and methods for mitigating neurodegeneration, effecting neuroprotection and/or effecting cognition enhancement in a subject are described. Neurological or cognitive conditions are treated by administering to a subject an effective amount of a therapeutic compound comprising a nitrate ester, or a pharmaceutically acceptable salt or ester thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

2002:266352 Nitrate esters and methods of making same.

Thatcher, Gregory R.J., Kingston, CANADA

Bennett, Brian M., Kingston, CANADA

Reynolds, James N., Kingston, CANADA

Boegman, Roland J., Kingston, CANADA

Jhamandas, Khem, Kingston, CANADA

US 2002147234 A1 20021010

APPLICATION: US 2002-108513 A1 20020329 (10)

DOCUMENT TYPE: Utility; APPLICATION.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

DRWD [0070] FIG. 19 is a graph showing a comparison of the percent change in mean arterial pressure in Inactin **anaesthetized** rats after intravenous bolus injection of GTN (squares) or Va (open circles). Data points represent the mean±standard errors (n=4).

DETD . . . Mongolian gerbils were subjected to 5 minutes of global forebrain ischemia by occlusion of the common carotid arteries under halothane **anesthesia**. This period of ischemia produces a selective neuronal cell death in the CA 1 region of the hippocampus that develops. . . .

DETD . . . model tested was transient focal cerebral ischemia in the rat induced by occlusion of the middle cerebral artery. Under halothane **anesthesia**, a filament was advanced into the right internal carotid artery until the origin of the right middle cerebral artery was. . . . The filament was secured, the animal allowed to regain consciousness, and two hours later the filament was removed under halothane **anesthesia**. Animals were given five subcutaneous doses of drug vehicle or 200 µmol/kg Va at 2, 3, 4, 6, and 8. . . .

DETD . . . compared to the contralateral striatum. d Pretreatment of these animals with GTN (administered as a subcutaneous patch inserted under halothane **anesthesia** one hour prior to the NMDA infusion) at doses of 0.2 and 0.4 mg/hr produced a dose-dependent reduction in the. . . .

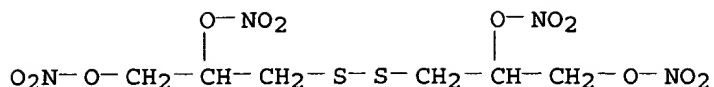
IT 98019-81-9P 179677-60-2P 179677-61-3P 179677-62-4P  
179677-63-5P 200418-98-0P 200418-99-1P 200419-00-7P 200419-01-8P  
(preparation of aliphatic nitrate esters for treatment of neurol. conditions)

IT 179677-60-2P

(preparation of aliphatic nitrate esters for treatment of neurol. conditions)

RN 179677-60-2 USPATFULL

CN 1,2-Propanediol, 3,3'-dithiobis-, tetranitrate (9CI) (CA INDEX NAME)



L12 ANSWER 5 OF 5 USPATFULL on STN

AB Compounds and methods for mitigating neurodegeneration, effecting neuroprotection and/or effecting cognition enhancement in a subject are described. Neurological or cognitive conditions are treated by administering to a subject an effective amount of a therapeutic compound comprising a nitrate ester, or a pharmaceutically acceptable salt or ester thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

2002:27463 Nitrate esters and their use for neurological conditions.

Thatcher, Gregory R.J., Kingston, CANADA

Bennett, Brian M., Kingston, CANADA

Reynolds, James N., Kingston, CANADA

Boegman, Roland J., Kingston, CANADA

Jhamandas, Khem, Kingston, CANADA

US 2002016311 A1 20020207

APPLICATION: US 2001-851591 A1 20010510 (9)

DOCUMENT TYPE: Utility; APPLICATION.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

DRWD [0070] FIG. 19 is a graph showing a comparison of the percent change in mean arterial pressure in Inactin **anaesthetized** rats after intravenous bolus injection of GTN (squares) or Va (open circles). Data points represent the mean±standard errors (n=4).

DETD . . . Mongolian gerbils were subjected to 5 minutes of global forebrain ischemia by occlusion of the common carotid arteries under halothane **anesthesia**. This period of ischemia produces a selective neuronal cell death in the CA1 region of the hippocampus that develops over. . .

DETD . . . model tested was transient focal cerebral ischemia in the rat induced by occlusion of the middle cerebral artery. Under halothane **anesthesia**, a filament was advanced into the right internal carotid artery until the origin of the right middle cerebral artery was. . . The filament was secured, the animal allowed to regain consciousness, and two hours later the filament was removed under halothane **anesthesia**. Animals were given five subcutaneous doses of drug vehicle or 200 µmol/kg Va at 2, 3, 4, 6, and 8. . .

DETD . . . as compared to the contralateral striatum. Pretreatment of these animals with GTN (administered as a subcutaneous patch inserted under halothane **anesthesia** one hour prior to the NMDA infusion) at doses of 0.2 and 0.4 mg/hr produced a dose-dependent reduction in the. . .

IT 98019-81-9P 179677-60-2P 179677-61-3P 179677-62-4P

179677-63-5P 200418-98-0P 200418-99-1P 200419-00-7P 200419-01-8P

(preparation of aliphatic nitrate esters for treatment of neurol.

conditions)

IT 179677-60-2P

(preparation of aliphatic nitrate esters for treatment of neurol.

conditions)

RN 179677-60-2 USPATFULL

CN 1,2-Propanediol, 3,3'-dithiobis-, tetranitrate (9CI) (CA INDEX NAME)



09/473,713

